

# INTERNATIONAL Herald Tribune

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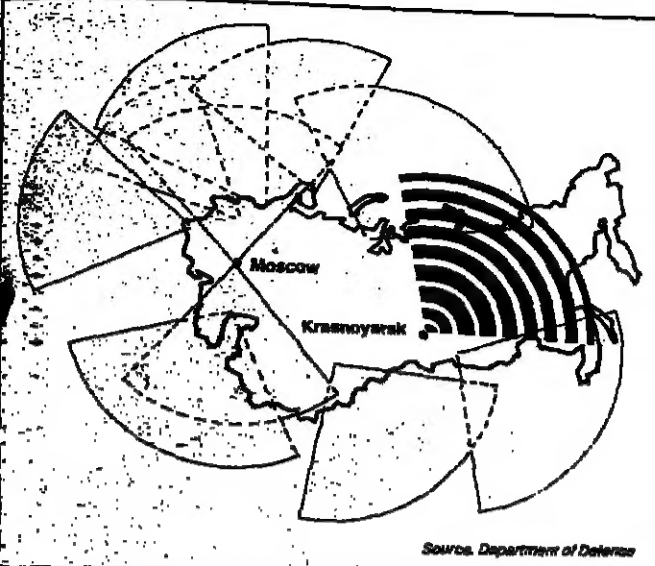
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## Gorbachev Still Sees SDI Gap

Soviet Leader's TV Report Hints at Doubts on U.S. Stance



Unlike other Soviet radar systems shown on this map, the radar being built near Krasnoyarsk is far from any borders, and does not point outward as the ABM Treaty requires.

## U.S. Says ABM Extension Depends on Soviet Radar

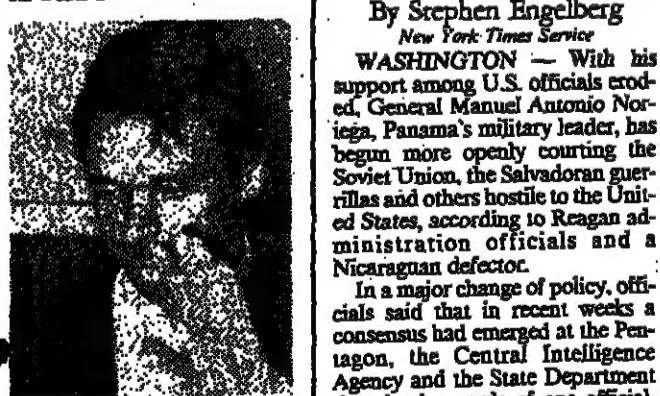
By Walter Pincus  
Washington Post Service  
WASHINGTON — The United States is demanding that the giant Soviet early-warning radar being constructed near Krasnoyarsk in central Siberia be modified or torn down before any new understanding is reached on the 1972 anti-ballistic missile treaty, according to U.S. arms control negotiators at the summit meeting last week made it clear, Reagan administration sources said, that there would have to be action on the radar before agreement could be reached to continue observing the ABM treaty for seven to 10 years, as Moscow wants. President Ronald Reagan has labeled Krasnoyarsk a clear violation of the treaty.

In a television interview Sunday, Mr. Reagan's national security adviser, Lieutenant General Colin Powell, said, "Our position is that Krasnoyarsk must come down."

## Kiosk Bomb Suspect Flown to Seoul

MANAMA, Bahrain (UPI) — A woman suspected of helping to blow up a Korean Air jet with 115 people aboard was flown from Bahrain to Seoul on Monday, witnesses said.

The Korean authorities say the woman, who was using a false Japanese passport, is a North Korean agent. An alleged accomplice committed suicide shortly after the airliner disappeared and apparently plunged into the Andaman Sea off Burma on Nov. 29.



Major Alain Mafart, convicted in the bombing of the Rainbow Warrior, has been flown to Paris from exile. Page 2.

**GENERAL NEWS**  
■ Nicaragua's leader played down reports of a planned military buildup. Page 3.  
■ George P. Shultz praised Norway for tightening its regulations on arms trade with the Soviet Union. Page 2.  
■ The U.S. Supreme Court struck down a state abortion law as hearings began on a new nominee to the court. Page 3.  
**BUSINESS/FINANCE**  
■ The dollar recovered from postwar lows after the Reagan administration denied that it favored a further fall. Page 15.  
■ U.S. industry's output rose in November but business sales fell slightly. Page 15.

## Special Report

New radars "see" farther. Sophisticated tools aid restorers in an Egyptian tomb. In Technology Quarterly. Pages 7-12.  
Dow close: UP 65.82  
DM £ Yen FF  
1.631 1.8375 127.95 5.5275

By Gary Lee  
Washington Post Service  
MOSCOW — Mikhail S. Gorbachev indicated Monday that important differences remained between him and President Ronald Reagan over the Strategic Defense Initiative following their meeting in Washington last week.

In a nationally televised report to the Soviet people on his meeting President Reagan reaffirmed the U.S. commitment to its NATO allies. Page 6.

with Mr. Reagan, Mr. Gorbachev called on both sides to maintain the "new atmosphere" in U.S.-Soviet relations resulting from the summit talks and urged the U.S. Senate to ratify the treaty to eliminate intermediate-range nuclear forces that was signed in Washington last Tuesday.

Mr. Gorbachev hinted that members of the Kremlin leadership were not fully convinced by Mr. Reagan's stance during the summit talks. He said that the delegation carefully analyzed whether there were changes in the Reagan administration's approach to the Soviet Union during the talks.

Saying the question was "not easy to comprehend," Mr. Gorbachev continued, "I should tell you, it is so far early to speak about a drastic turn in our relations."

"Nevertheless," he said, "I want to say that the dialogue with the president and other political figures of the United States is different from before. It was more constructive."

In contrast to the free-wheeling open appearances he made in Washington last week, Mr. Gorbachev was measured in his remarks, often pausing to look down at his prepared text.

Mr. Gorbachev also used the 20-minute address to warn against jumping to conclusions that Mr. Reagan's plans for a shield against space-based weapons can now proceed.

"Certain persons even try to assert that the talks in Washington have removed differences on such a problem as SDI and under that pretext make calls for speeding up work on that program," the Soviet leader said.

"I must say outright that these are dangerous tendencies and that they should not be underestimated," he said, adding that they can "undermine the nascent turn," in disarmament.

In his address, Mr. Gorbachev stressed that Soviet approval of a treaty under negotiation between the two sides to cut strategic weapons by 50 percent was conditioned on a U.S. agreement to adhere to the 1972 Anti-Ballistic Missile Treaty.



## Israeli-Palestinian Clashes Continue in Gaza

Israeli soldiers detained a Palestinian in the Gaza town of Khan Yunis on Monday. Witnesses said the man was later found unconscious in an alley. Two Palestinians also died on the sixth straight day of violent demonstrations in the territory. Page 2.

## Korea Reporters Protest Vote Coverage

By Fred Hiatt  
Washington Post Service  
SEOUL — More than 30 reporters employed by the South Korean government-owned television network held a sit-in Monday to protest against what they called biased news coverage of the presidential election.

Although opposition politicians have complained repeatedly about pro-government bias in Korea Broadcasting System news reports, the action represented the first complaints from within the network. The protest seemed likely to lend credibility to opposition charges of ruling party manipulation of the news media.

The protest also focused attention on growing tensions arising from broader accusations that the ruling party is conducting an unfair

and fraudulent campaign on behalf of its candidate, Roh Tae Woo. Opposition candidates have warned that a popular uprising may ensue if Mr. Roh is declared the winner after Wednesday's election.

A government spokesman signaled in an interview that the regime is prepared to take a hard line against any resistance to Mr. Roh's election.

"That will be the job of the government," spokesman Park Shin Il said. "It might take maximum police power—people are thinking of all kinds of contingencies. It would have to be done very professionally and very carefully."

Construction Minister Lee Kyu Hyo fueled opposition fears of a post-election crackdown when he said that violent government oppo-

nents should be "swept away" after the election. The comment, briefly reported in the newspaper Dong-A Ilbo, touched off such a wave of rumors and accusations within the opposition camp that Mr. Roh let it be known he was "disgusted" by the minister's remark.

The minister offered his resignation, and President Chun Doo Hwan, acting with unusual speed, accepted it and named a replacement for the cabinet job.

Foreigners from at least five different organizations have arrived in Seoul to monitor the fairness of the election, although the government has said it will not permit foreign observers to witness actual voting.

Several representatives of the groups said they hope to play a role similar to that of poll watchers in the Philippines, whose reports of

widespread ballot tampering helped dethrone former President Ferdinand E. Marcos. Unlike during the Philippine election, however, no U.S. senators or members of Congress have arrived to watch the vote.

Opposition parties have focused not only on election day, but on what they say is an unfair government campaign. A chief complaint has been that Korean television stations, all of which are owned directly or indirectly by the government, have done everything they can to make Mr. Roh look good while slighting opposition candidates Kim Young Sam and Kim Dae Jung.

The television reporters supported that contention when they held their sit-in. The reporters said they

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## OPEC Reaches New Pact

Accord Excludes Iraq, Upholds Price of \$18

VIENNA — All the OPEC states except Iraq agreed late Monday to maintain their crude oil price at \$18 a barrel for the first half of next year and to limit output to 15.06 million barrels a day to defend it, delegates to the talks said.

The accord had been widely expected. It disappointed oil traders, who had marked prices down some 30 cents a barrel in expectation of the pact.

The agreement was seen as a compromise between Iranian insistence that the group raise its oil prices to \$20 a barrel and demands by Arab states in the Gulf that the Organization of Petroleum Exporting Countries refrain from doing anything that would change the grip it has had on world oil markets for the past year.

Asked if the new agreement was for 12 members, with a 15.06 million barrel-a-day ceiling and an \$18 reference price, the Algerian oil minister, Abdelkader Naitali, replied "yes" to all three questions.

Earlier, the Iraqi oil minister, Isam Abdul Rahim al-Chalabi, said that his country would not be part of any new OPEC accord. Iraq has ignored its assigned quota of 1.54 million barrels because it is below the 2.369 million barrels allotted Iran, its enemy in the Gulf War. Iraq has been producing about 2.7 million barrels per day. Representatives of the OPEC countries have been meeting in Vienna since Dec. 9.

## Oil Prices Fall

Warren Geller of the International Herald Tribune reported earlier from London.

Crude oil prices fell sharply earlier Monday amid market doubts that OPEC could hammer out an effective agreement to bolster prices and restrain production levels.

Traders said that the proposed pact, which would effectively "roll over" last year's agreement to defend \$18 a barrel and maintain an output ceiling of 15.6 million barrels a day, was an ineffective solution to a glutted world oil market and increasingly soft prices.

On the New York Mercantile Exchange, the benchmark U.S. crude oil price fell to \$17.44 a barrel for immediate delivery. On the spot market, West Texas

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## The End of the Second Jazz Age

Youth and Wealth Were Idols of '80s Investment Craze

By William Glaberson  
New York Times Service  
NEW YORK — When the closing bell rang on Oct. 19, at the end of the worst day in the history of the New York Stock Exchange, a characteristically American era came to an end.

It was a time when 29-year-olds were earning six-figure salaries on Wall Street. Multibillion-dollar companies were bought and sold like used cars. Everybody was "doing deals." And stocks seemed to go only up.

Eight weeks after the collapse, people are beginning to see that the five-year bull market of the '80s was a new Gatsby age, complete with the materialism and euphoric excesses of all speculative eras. Like the Jazz Age of F. Scott Fitzgerald's fictional Jay Gatsby in the 1920s, the years combined the romance of wealth and youth with the slightly sinister aura of secret understandings and cut corners.

"People will be looking for a point when perceptions changed," said John R. Petty, chairman of Marine Midland Banks Inc., who was an assistant secretary of the Treasury in the Nixon and Johnson administrations. "They'll pick Oct. 19. It will be the 'ever upward and onward' being replaced by tough sledding and 'one foot in front of another.'"

The historian Arthur M. Schlesinger Jr. said that "in a symbolic sense," the collapse "crystallized people's discomfort with the unbridled pursuit of self-interest." As they did in the Jazz Age, Mr. Schlesinger said, Americans in the '80s had tipped the balance they are always adjusting between altruism and selfishness. Self-interest won.

The financial world was the

heart of the new age, and there, more than anywhere else, Oct. 19 left a painful legacy. At least half a dozen investigations, including a presidential commission's, are grappling with what happened to the market that day.

"It's the nearest thing to a meltdown that I ever want to see," John J. Phelan Jr., chairman of the New York Stock Exchange, observed at the close of trading on Black Monday.

It is clear that the collapse will change the money business profoundly. The crisis has already led to these developments:

● A reappraisal of the country's market system.

● Assertions that new technology is increasing investment risks more than anyone realized.

● Concerns about the interrelationship of global securities markets.

● A sharp debate over a regulatory structure that some say lags far behind the world it was designed to control.

It will be years before the United States can measure the full impact of that dizzying day and the days that followed. But some accounting can be made now.

"It will be seen as the end of a period of good, wild times and a return to reality."

— John Brooks, author

On Wall Street, where the big salaries turned newly minted business school graduates into movers and shakers, the world is suddenly an unforgiving place. Securities firms have let 4,000 people go, and many more pink slips are likely to follow. This week, E.F. Hutton Group is expected to begin the first of 5,000 dismissals expected as a result of its planned merger with Shearson Lehman Brothers.

The stock market's rise, as it often has in the past, mirrored and shaped the American mood. Takeover fever spurred the rise and built vast new fortunes. Traders with inside tips made millions in the kinds of illicit schemes that historians say are classic marks of speculative periods.

If there were big problems like the U.S. trade and budget deficits that threatened the prosperity, they seemed distant. The market and the country, in a sense, broke away from the mundane economic details that usually govern their progress. And in all the noise, critics who said that fundamental problems threatened the country's future could hardly make their warnings heard.

"We've been through quite a few years in which we felt we had reached the millennium, which was high rewards and no risk," said Peter G. Peterson, an investment

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## Protests Mark ASEAN Summit Meeting in Manila

While President Corason C. Aquino of the Philippines welcomed ASEAN leaders to their first summit meeting since 1977, about 1,500 protesters marched in Manila on Monday to proclaim opposition to U.S. bases and to alleged U.S.-Japanese domination of Southeast Asia. The six ASEAN heads discussed the Vietnamese occupation of Cambodia and Indochinese refugees. Page 6.

## With Cow in Its Zoo, Dublin Prepares for Millennium

By Francis X. Clines  
New York Times Service  
DUBLIN — First of all, the cow imported last year from the ever-receding farmlands is doing well at the zoo—herself a celebration of the progress of this tough and friendly city. For now the sight of such a pastoral creature being milked has been offered to urbane Dubliners as an exotic treat.

Second, and no less important for many lovers of this capital, the plan for a grand motorway to spill down through the city bold as the ancient patriots of Brian Boru has been suddenly defeated by ordinary Dubliners, who rose up in outrage in defense of the old neighborhoods.

Having gained one cow and lost one motorway, Dublin can now let the celebration of its grand millennium begin.

The new year will mark 10 centuries, by the publicists' reckoning, since the city finally fell into certifiable Irish hands, warrior king hands that wrested it from the long dominance of roving Viking occupiers in 988.

By the reckoning of some scholars, however, this is incorrect by any number of years.

As a result, the only recourse for the true Dubliner is to smile in sheer Irish pleasure at indulging in one and the same cause a heated dispute and a yearlong street party to be crammed with pub songs. Thoroughbred horses, literary characters, and a spirit of forgiveness toward past conquerors—the Vikings more than the English.

"What difference does it make whether or not it's real?" asked David Norris, a Joyce scholar quite mindful that the

truth of Dublin is rooted at least as much in imagination as in reality. "It's a damn good thing that people in this city finally want to feel good about themselves and celebrate."

He is right, as the lord mayor, Bertie Ahern, concedes in proclaiming "yet another comeback" for a doughy city where "being optimistic and hopeful is not fashionable."

The cycle of hard times and flinty spirits has left an agreeable humility.

"Dublin Be Proud," advises the centennial book of Pat Liddy, a gifted artist who sketches and appraises, often mournfully, each corner of the city. The millennium already seems special because its boosterism is as soft to the ear as the River Liffey that flows beneath the O'Connell Street

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## Nicaragua's Leader Plays Down Assertion On Military Buildup

By William Branigin  
Washington Post Staff Writer

MANAGUA — President Daniel Ortega Saavedra said that plans for a major Nicaraguan armed forces buildup were merely a "proposal" to the government that had not been accepted.

He asserted that Nicaragua would have "a modest army" after the current civil war ends.

Mr. Ortega sought to play down a speech on Saturday by General Humberto Ortega Saavedra, who is his brother as well as the defense minister.

The president stressed Sunday that the Sandinist government was respecting a Central American peace accord and was willing to negotiate arms reductions with its neighbors and the United States.

"We have talked of having all our population learn to handle arms to be ready to defend the country," Mr. Ortega said, "but not of organizing an army of 600,000 men, because this would not make sense. This country does not support an army of that magnitude."

The president said that what the government had in mind was a defense system such as Switzerland's, in which "the entire population is ready to defend the country."

His account of the military plans contrasted sharply with the statements by his brother. Those statements appeared to confirm allegations by a Sandinist defector, Major Roger Miranda Bengoechea, regarding military cooperation protocols between Nicaragua and the Soviet Union.

Asked about his brother's account of a 15-year plan to build up the Sandinist regular armed forces, reserves and militias to a total strength of 600,000 by 1995, Mr. Ortega said: "No, this plan does not exist. The statement that General Ortega made yesterday is in the context of the war of the people, if this war continues or intensifies."

"This is a proposal of the army for the government, but it has not been accepted by the government of Nicaragua."

At another point, Mr. Ortega said the figure of 600,000 was contemplated largely in terms of reserves that could be mobilized to combat an invasion.

The president said the defense minister's statements were "linked to the time of war that Nicaragua is living through," a period marked by U.S. aid for the guerrilla force known as the contras, and the acquisition by Honduras of F-5 fighter planes from the United States.

"We have always thought that once this war ends, the army here should be a modest army," Mr. Ortega said.

The Sandinist leader made the statements after a speech in which he told an assembly of union delegates that the Sandinist National Liberation Front would not give up "revolutionary power" or allow domestic opposition groups to become an "internal front" of the contras.

Issuing a stern warning to opposition groups and news media of the right to "act with responsibility," Mr. Ortega said the Sandinist government would "mobilize the workers of all companies to go to combat" if necessary.

The president's attempt to clarify his brother's remarks conflicted with a description in the alleged Soviet-Nicaraguan protocols of a Sandinist military buildup independent of the current war with the contras and the regional peace efforts.

The alleged protocols, described as covering military cooperation between Nicaragua and the Soviet Union, were among documents that U.S. officials said had been provided by Major Miranda.

One passage estimates that the rebels will suffer "total defeat during the period 1988-90" and states that the subsequent goal is to be able to defeat a U.S. invasion.

Asked whether such agreements exist, Mr. Ortega said Nicaragua has relations "of a military type" with Moscow.

"We are not in an agreement as such in the terms that Miranda tried to present," Mr. Ortega said, "but they are accords that Nicaragua has reached as to assistance from the Soviets and that cover the necessities for the defense of the country."

### Talks Postponed

The Nicaraguan government postponed a second round of peace talks with the rebels only hours before it was to begin on Monday in the Dominican Republic, church and diplomatic sources said.

The sources said the government wanted more time to prepare for the talks, which would have brought representatives of the two sides face to face for the first time.

One Latin American diplomat close to the cease-fire negotiations said no new date for the talks had been fixed, but he said he believed that a meeting might take place Wednesday or Thursday.



**DUMPED CHEMICALS** — White tank cars containing vinyl chloride lying on the track next to burning cars containing liquid propane following a derailment near Round Rock, Texas. The accident, which occurred late Saturday, caused the evacuation of 5,000 in the town.

## U.S. High Court Splits in Abortion Case

The Associated Press

WASHINGTON — An evenly divided Supreme Court struck down on Monday an Illinois law that could have limited the right of some teen-age girls to have abortions.

By a 4-4 vote and with no accompanying opinion, the court upheld an appeals court ruling that the Illinois law impermissibly interferes with abortion rights.

The law required some girls under age 18 who seek abortions to wait 24 hours to have the operation after telling their parents or a judge about their decision. The appeals court had ruled that the waiting period infringed on the right to have an abortion but left intact the requirement of parental notification or judicial permission.

The even split on the Supreme Court raises the possibility that the panel could reconsider the abortion issue with nine justices participating.

That possibility is one reason that President Ronald Reagan's

## N.Y. Diocese Bars Teaching on Condoms

By Ari L. Goldman  
New York Times Staff Writer

NEW YORK — Cardinal John O'Connor will not allow instruction about condoms in AIDS education programs in the schools, hospitals and youth programs of the archdiocese of New York despite the qualified approval of such an approach by his fellow bishops.

He characterized as a "very grave mistake" the release of a 30-page policy paper last week by the bishops. It said such instruction regarding acquired immune deficiency syndrome could be permitted if presented within the context of Roman Catholic teaching that advocated "abstinence outside of marriage and fidelity within marriage."

The bishops' paper, the cardinal added Sunday, has resulted in "serious confusion." In an emphatic statement released Sunday at St. Patrick's Cathedral, he said he wanted no such confusion in the archdiocese.

"All persons and agencies addressing the issue of AIDS under the cognizance of the archdiocese of New York will continue to follow the policy guidelines" of the archdiocese, the cardinal said. These guidelines, he said, prohibit instruction about condoms.

[In Boston, 16 New England bishops issued a statement Saturday challenging the policy paper on providing information about condoms. The Associated Press reported. The statement said, "We wish to emphasize that abstinence is the

only morally acceptable way to avoid the sexual transmission of AIDS."

"[Apart from the fact that the use of condoms does not guarantee protection from AIDS, their use is morally unacceptable," they said.]

Archbishop O'Connor was in Rome on Thursday, the day the document was released by the 50 members of the administrative board of the U.S. Catholic Conference. The cardinal, who reported to Pope John Paul II on his recent mission to Manila, said he had no indication that Vatican officials were even aware of the document.

The Vatican has issued no official comment on it. Several Vatican officials reached for comment in the last few days said they could not read a judgment on the policy paper because they had not read the full text.

William Ryan, acting secretary for public affairs for the U.S. bishops conference, said that although the Vatican was kept informed about the activities of the conference, there was no requirement that each policy paper be approved.

Archbishop O'Connor said that the directives of the administrative board of the U.S. bishops were merely advisory and that an individual bishop was ultimately answerable only to Rome. The cardinal said he expected that other bishops would follow his lead in distancing themselves from the policy paper.

In Washington, the president of the U.S. Catholic Conference, who is also the chairman of the administrative board, said he stood by the group's approach.

"Many public health officials have recommended the use of con-

doms to reduce the risk of transmitting or acquiring the AIDS virus," said the conference president, Archbishop John L. May of St. Louis, "and we acknowledge that this fact will be part of the comprehensive factual presentations on the disease."

He added: "Such presentations, however, should reflect the fact that so-called 'safe sex' practices are at best only partially effective and that they do not take into account either the real values that are at stake or the fundamental good of the human person."

"For us not to address such aspects of the AIDS phenomenon would leave people to learn of them from factually misleading campaigns designed to sell certain products or to advocate 'safe sex' without reference to a moral perspective."

## Rise Expected in Child AIDS

New York Times Service

WASHINGTON — The health care and foster care systems in the United States are overburdened and ill-equipped to deal with an expected increase in pediatric AIDS cases by the year 1991, according to a congressional report.

The House Select Committee on Children, Youth and Families said in its report that acquired immune deficiency syndrome was emerging rapidly as a major health threat to children and adolescents. The report marks the first time Congress

has examined the figures on AIDS cases among the very young.

Of the estimated 279,000 Americans expected to contract AIDS by 1991, 3,000 will be under age 13, said the committee, which based its estimates on figures from the federal Centers for Disease Control. As of last month, there were 691 pediatric AIDS cases in the country out of 47,298 diagnosed cases.

A growing number of women of childbearing age are infected with the human immunodeficiency virus, or HIV, which causes AIDS, a committee staff member noted. About 80 percent of AIDS cases in children have resulted from perinatal transmission from the mother. The rest have been caused mainly by contaminated blood transfusions.

The report calls for increased federal spending for education, research, testing and treatment, but it recommends no specific solutions. A dissenting response to the report filed by eight Republicans on the Democratic-controlled committee said that the report "urges solutions that are so limited as to be irrelevant to babies who get AIDS from drug-abusing mothers or children who get AIDS from drug-abusing or bisexual fathers who sexually abuse them."

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## Brazil Police Still Torture and Kill, Report Says

By Alan Riding  
New York Times Staff Writer

RIO DE JANEIRO — A U.S. human rights organization says that, while political repression has diminished since civilian rule returned to Brazil in 1985, the police in major cities still routinely use torture and executions in dealing with suspected criminals.

"Torture is very widespread, both in São Paulo and Rio de Janeiro, as well as probably elsewhere in Brazil," the organization, Americas Watch, concluded in a report issued Saturday.

"Deadly force is also used indiscriminately and carelessly," the report said.

The report said there was widespread public awareness but little

public outrage about these human rights violations because, at a time of growing urban violence, the victims are generally presumed to be criminals.

"The chief cause for continued killings is the ongoing public apathy about or outright support for police brutality," the report said. It added that off-duty policemen were known to participate in death squads that either volunteer, or are hired, to "clean up" neighborhoods with high rates of crime.

The 59-page report also cited the "ferocity" of efforts to obstruct prosecution and punishment of police officers allegedly involved in torture and murder. This is done, it said, through successful police cover-up operations or intimidation of witnesses and judges.

Americas Watch, based in New York, was founded by American lawyers in 1981 to monitor human rights throughout the Western Hemisphere. It usually focuses its attention on countries affected by political violence. Its report on Brazil is unusual, since the police brutality there appears not to be mainly aimed at political opponents.

In the past, the report said, repression of political opposition in Brazil resulted in vigorous protests about human rights violations.

"Ironically, in the current transition to democratic civilian government, the concern for human rights awakened by the military dictatorship has in some measure gone back to sleep," the report said.

It added, "Though it is true that

abuse of political prisoners has greatly decreased, violations of the human rights of ordinary citizens persist."

"Members of the middle and upper classes were hit hard by human rights violations during the dictatorship. Now the victims, drawn overwhelmingly from the lower classes, evoke much less concern from influential sectors of society."

The report said the state governments of São Paulo and Rio de Janeiro were formally committed to combating police brutality, but had failed to eliminate excesses or to exercise full control over the security forces.

In recent weeks, both state governments have adopted measures that officials said were aimed at eliminating abuses by the police.

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# Herald Tribune

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## Damage Limitation

The economic writing on the wall is clear. Political horse-trading in Washington to reduce the budget deficit, and thus the foreign deficit that pulls down the dollar, has done little that will bring U.S. accounts back toward reasonable balance in 1988. At best it will prevent federal debt from rising faster next year than this. And as for 1989, no Congress can commit its successor, and no president can force the hand of his replacement. The responsibilities of Europe, particularly West Germany, to vacillate in America have been predictably halfhearted. Governments see small point in taking energetic action to spur their economies — steps which would help the United States correct its foreign deficit — when action by the world's biggest economy remains puny.

Even before Black Monday, prospects for 1988 seemed poor. Only three economies were buoyant. New British buoyancy is weakening. America's will probably follow suit as the trade imbalance and the sinking dollar take their toll and as, arguably but not certainly, growing financial uncertainty impedes business and the consumer to draw in their horns. It would be amazing if Japan, with an economy only one-third the size of America's, could carry the world aloft. Unless policies are vastly changed, a weak prospect looks like becoming weaker. That is bad news for the rich world and the poor alike.

Big policy changes in the rich democracies in time to affect 1988 are improbable. The most to be hoped for is some sort of damage limitation, to soften the effects of near-recession. Stronger steps to limit the social damage of rising unemployment, above all in Europe, are required: higher spending to train the young, retrain the older and provide some sort of jobs for the long-term unemployed, so as to lessen the feeling of abject hopelessness. This costs more than unemployment benefits but promises a less negative return.

For the debt-ridden developing countries, which are going to be more strapped for cash than ever, new flexibility by the creditors must be considered: some relaxation of the disciplines that the lenders — rightly, to date — have imposed on the over-borrowed. If the rich can't get their houses in order, how can the poor?

And at the very least we need a ceasefire in the trade war — the process whereby countries offend by, say, Brazilian or Japanese protectionist retaliation by imposing new countervailing restraints on imports. The offenses may be flagrant, but this is not the moment to compound them, because more trade barriers make world recession more likely.

None of these steps will turn the world economy around. But they can reduce the risks of a downturn in the non-Communist world that would only benefit hard-liners in the East.

INTERNATIONAL HERALD TRIBUNE

## Who's Afraid of Talk?

The United States, which welcomed Mikhail Gorbachev last week, is about to open its doors a little wider for other controversial visitors. A congressional committee considering the Foreign Relations Authorization Act has agreed to accept an amendment passed by the Senate unanimously that will clear up an area of the law that has become embarrassingly murky. As soon as the authorization bill is accepted by both houses — probably early next week — this language will be law: "Notwithstanding any other provision of law, no alien may be denied a visa or excluded from admission into the United States, subject to restrictions or conditions on entry into the United States, or subject to deportation because of any past, current or expected beliefs which, if engaged in by a United States citizen in the United States, would be protected under the Constitution of the United States."

There are a couple of exceptions, but basically that is it. Clear as a bell.

The clarification is necessary because for decades there has been litigation, debate, confusion and various shifting forms of paranoia over the question of which for-

— THE WASHINGTON POST

## Suffer the PLO Offices

Few Americans have a kind word for the Palestine Liberation Organization. Their number might increase, however, as the unintended result of the U.S. Congress's demagogic competition with the Reagan administration in PLO-bashing.

In this tragedy, the curtain rises on Capitol Hill, where liberal Democrats like Senators Paul Simon, Howard M. Metzenbaum and Ted Kennedy join with Republican conservatives like Senator Bob Dole and Representative Jack Kemp to support an "anti-terrorism" amendment that would close down PLO offices in Washington and at the United Nations in New York.

With a probable nudge from Vice President George Bush, eager not to be upstaged by his Republican rivals, the State Department moves first and orders closure of the PLO's Washington office. But since the office only dispenses information, doesn't that impede free speech? Not really, State says it designated the office a "foreign mission," which is not entitled to operate under First Amendment protections — although the office never asked to be so designated.

But this was not enough for the Senate, which went ahead to vote to close down the office at the United Nations as well. The only memorable observation was offered by

— THE NEW YORK TIMES

## Other Comment

### Approval in Eastern Europe

The signing of the agreement to scrap all intermediate-range nuclear missiles has aroused few misgivings among the governments and people of Eastern Europe than in the West. Their single fear, expressed in the communiqué of the East Berlin meeting, is that the West Europeans might try to "compensate" for the loss of the INF weapons by modernizing their defenses in other ways. Within the Warsaw Pact, the INF agreement poses few problems. Only the Romanian leadership has failed to give it full endorsement.

People in Poland and Czechoslovakia had opposed the arrival of new Soviet missiles. The removal of the missiles will now be greeted with relief both by the objectors and by the governments — because it removes one focus of popular discontent.

If the Soviet leadership hopes that the INF treaty may eventually weaken Western

Europe by reducing the U.S. commitment to its defense, however, they may be in error. It is possible that the opposite may happen: that Western Europe will become more united and more self-reliant in defense. A stronger Western Europe might, in turn, provide a focus for the aspirations of people in Eastern Europe, as it has not been able to do before. This would provide a particular attraction for Poles, Czechs, Slovaks and Hungarians, whose sense of European identity and desire for reintegration at their own discretion from the East is still so strong.

— THE TIMES (LONDON)

Much work remains to be done. But even if this summit was short on concrete results, both the president and the general secretary have surely improved their standing in the eyes of their respective constituencies, and that could be of great help in future East-West cooperation.

— Neue Zürcher Zeitung (Zurich)

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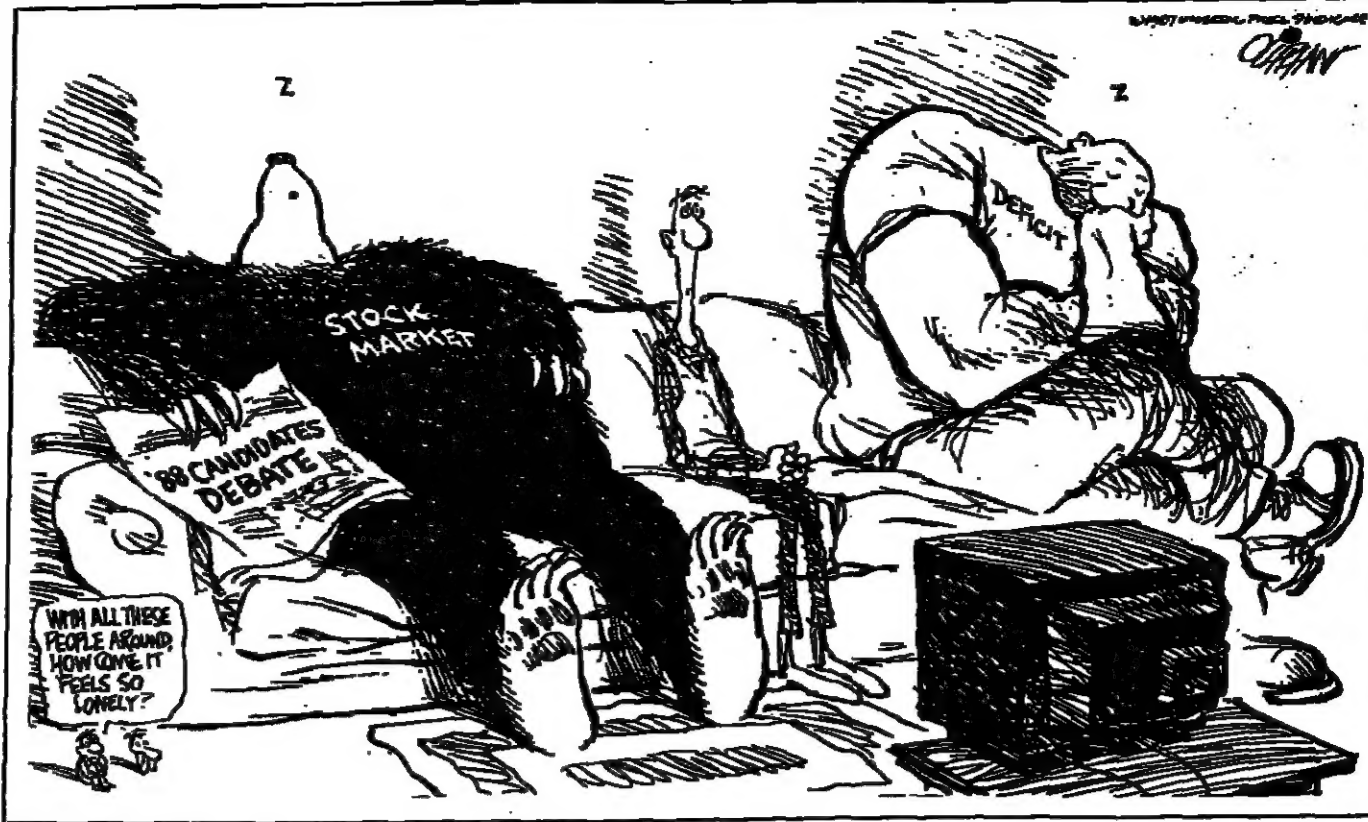
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## OPINION



## As the Missiles Come Out, Italians Face a Choice

By Cesare Merlini

ROME — In January 1979, President Valéry Giscard d'Estaing invited President Jimmy Carter, Prime Minister James Callaghan and Chancellor Helmut Schmidt to Guadeloupe for a meeting that decided on deployment of intermediate nuclear weapons in Western Europe. The West German said his government was willing to have the weapons on German soil if at least one other continental nation would also accept them. He had the Benelux countries in mind, but it was Italy that came forward to announce its willingness to accept the missiles, taking its Western partners by surprise.

From that moment on, the Italians have frequently been praised as forthcoming, active allies. But why only them? In fact there was nothing fundamentally new in the Italian decision. During the two preceding decades more than 1,000 nuclear warheads out of a NATO total of 7,000 had been stationed in Italy.

What was new was that the decision had more of a political dimension inside Italy than had been the case with previous security issues. The government majority reaffirmed a long-held stance, the Communists' opposition was mild and there was a mature public debate in which pacifist objections were overcome — all a

short time after many allies had depicted Italy as a ship about to leave the safe harbor of Europe to sail troubled Mediterranean waters under the half-red flag of the "historic compromise" between the Christian Democrats and the Communists.

In Italy, the 112 cruise missiles that were being deployed in Comiso, Sicily, were seen as a symbol of additional status within the alliance, an insurance policy against a second Guadeloupe and a way to strengthen the relationship with the United States.

Now that the missiles are being scrapped, will these benefits that Italy gained vanish? There is no visible concern in Rome to this effect. The political establishment shared neither the French-British reservations nor the German angst in the aftermath of Reykjavik. Although some commentators have been echoing the concerns about a possible decoupling of U.S. and West European defenses, the Italian press for the most part has applauded the agreement to eliminate medium-range nuclear weapons.

However, beyond this near-unanimous some differing conclusions about the future of Italian foreign policy are being drawn.

Some Italian policy makers tend to

see the dismantling of the cruise missiles in Comiso as an opportunity to reduce Italy's commitment to NATO and to gain more freedom of maneuver for a country whose geopolitical position enables it to play the role of mediator between East and West and North and South. Those who hold this view are uneasy about Italy's military involvement in the Gulf and hesitant about French initiatives for European defense cooperation, which are seen as too Paris-centered and a potential invitation to further U.S. disengagement from Europe.

Another school of thought recognizes that the signing of the INF treaty profoundly changed the European security outlook, and believes that a number of moves must be made to confront the new situation. In this view, defense cooperation in Europe has become even more important, and Italy must join in order to make it genuinely multilateral and integrated. Since the threat to Western security continues to exist, it is important, in this view, that Italy remain fully committed.

This second approach has more perspective, but depends largely on international developments in which Italy should play a role. NATO must find a

new mix of nuclear and conventional defenses. The elimination of medium- and shorter-range nuclear missiles makes it even more imperative to reach agreement on the withdrawal of battlefield nuclear weapons, to be compensated by stronger and better integrated conventional capabilities.

This does not mean that Europe would be demilitarized, as some commentators have suggested. On the contrary, the effectiveness of some airborne and sea-based nuclear weapons should be improved. The presence of U.S. forces should be maintained at current levels, or nearly so.

As for the British and French nuclear deterrents, there is no basis for questioning ultimate national control. But planning and targeting could increasingly be conducted multilaterally, possibly by a group to be created within the Western European Union.

New, bilateral steps should also be encouraged. For instance, one might consider the deployment of a small unit of the Italian army in Bavaria, to parallel a more active presence of the West German air force in the Mediterranean.

The writer is president of the Italian Institute of International Affairs. He contributed this comment to the International Herald Tribune.

## The Smart Money Isn't Buying U.S. Budget Moves

By Alan Butler-Henderson

LONDON — Amid the hubbaloos surrounding the U.S. budget negotiations in Washington, how impressed is the alternate investor — the fund manager who prefers to think things through rather than rely on herd instinct?

Not a lot, probably. His disquiet is not a product of the paucity of the package, but a matter of basics: What good is going to come of these moves to cut the U.S. deficit?

In the old days, lower budget deficits were supposed to lead to lower interest rates. We do not hear much of such theories now, perhaps because several countries have more or less achieved that state of fiscal bliss — a balanced budget. It has not seemed to earn them lower interest rates, whether nominal or real, absolute or relative. Ask an Australian.

Similarly, continuing to live in sin with high budget deficits does not seem to have brought about the predicted pestilence. Ask a Japanese.

Now we are told that all a large trade-deficit country like the United States has to do is to cut its budget deficit, and the external problem will go away. But will it really work?

Proponents of the argument seem to rely on the following thesis: America's main problem is its low reported savings ratio — palpably too low to "finance" the government's excess of spending over receipts. Let us tackle this on two fronts, they argue. First, boost the amount U.S. citizens save by raising their taxes and making life generally unpleasant; this will mean that Americans will be

in a position to finance their now-reduced budget deficit. Second, persuade other countries to use as a stimulant to their economies the (large) portion of their savings that went previously to the United States to make good the American savings deficiency; if they do that with enough verve, the added demands abroad will end up creating American exports, the trade imbalance will disappear and everything will be rosy.

Being indeed, but most unlikely. What has been left out is the question of what credit management policy (usually referred to as monetary policy) Washington pursues during this miracle.

A proper tightening of credit would reduce personal consumption, raise the propensity to save, lessen the appetite for imports, force U.S. corporations to augment their sales efforts overseas and probably utilize other nations into expansion as they attempt to offset the negative impact on their work forces of lower U.S. demand.

Yes, that would cure America's trade imbalance — but the trend in the budget deficit in that process would be immaterial. When Britain was adjusting to the first years of Thatcherism, the budget imbalance soared to giddy heights, but so did sterling, so did Britain's current account surplus and so did industry's efforts to rationalize and prepare for a competitive world.

U.S. politicians seem bent on not taking that

path. The chairman of the Federal Reserve, Alan Greenspan, looked momentarily as if he might, being prepared to put monetary discipline first as pressure came on the dollar in early autumn. But investors were too wily. They saw that what elevated equity market values needed like a hole in the head was U.S. conduct along the lines of the harder options. They delivered their verdict in a unanimous fashion, causing the White House to take total control of policy making.

And so we are back to playing with fiscalism — and, moreover, credit management has now been relaxed. The result will be a continuation of what, by modern American standards, is sprightly American economic growth, coupled with an impetus to an already perky inflation rate and further downward pressure on an already unpopular currency. What it will not mean is any cure to the lofty U.S. trade imbalance.

Having thought this through, the alternate investor will breathe a sigh of relief about the prospects for his or her equity portfolio, and will be grateful for the current selling opportunity in bonds. But such a person might also decide to avoid holding any investment exposure in America until the administration stops behaving as if it were living in a fool's paradise.

The writer is the director in charge of international research at the London stock brokerage Hoare Govett. He contributed this comment to the International Herald Tribune.

## The Old Vietnam Arguments Beg Lasting Questions

By William Pfaff

PARIS — The old, depressing arguments about Vietnam go on because the questions about Vietnam are questions urgently present today in the Middle East, the Philippines, the Gulf region and Latin America.

A basic question: Was the United States responsible for the fall of South Vietnam to communism? Responsible because it could have prevented that outcome and failed to do so? Some say yes. If the answer is yes, and the United States possessed the power to save or to lose Vietnam, it follows that it has the power to save or lose other countries elsewhere today. If the answer is no, a fundamentally different view must be taken of American power and possibility — past, but also present.

At a recent debate in Paris, some Vietnamese survivors of the collapse of the Saigon government accused the Nixon administration of having consciously abandoned them by signing a peace accord with North Vietnam in January 1973 and withdrawing U.S. forces. They say Vietnam was betrayed by the United States.

Former Secretary of State Henry Kissinger, who was present, replied that he signed the peace agreement in good faith, believing that this "would rally a consensus in Congress" so that if Hanoi violated the agreement there would be public support for resumed bombings. Because of the Watergate scandal, he said, when the crisis came, renewed bombing was politically impossible.

This is arguable so far as public opinion in the United States was concerned. But behind it is a disingenuous assumption about the situation in Vietnam. Why should resumed bombing have stopped a new Communist offensive? A long campaign of bombings in the past — bombings heavier

than against Germany during World War II — had not deterred or defeated the Communists. Nor had a decade-long intervention by half a million American soldiers.

The peace treaty and "Vietnamization" of the war were acts of great power cynicism. This, surely, was clear at the time. The Nixon administration had discovered that it could not win the war, or that it could not do so at a cost acceptable to the American public. The president and his secretary of state, both of them intelligent men and political survivors, drew the inevitable conclusion and acted upon it.

They were not, I think, wrong to do so. They were wrong not to have done so long before 1973. Their decisions unquestionably sealed the fate of South Vietnam. But how is it that South Vietnam's fate could be settled in this way? Why was the Saigon government fatally dependent on the United States? What such a dependence, what real claim to legitimacy did it have? These are essential issues.

What happened to Vietnam followed from the historical fact that the Communist movement, which struck root in the country in the 1920s and 1930s, emerged by the 1940s as the single most dynamic and competent native political force. It captured the leadership of the nationalist and anti-colonial forces of the time and imaginatively exploited the opportunity provided by Japan's explosive ejection of European colonial power from the greater part of Asia from 1941 to 1943.

When France tried to re-establish itself in Vietnam after the war, the Communists were able to dominate the struggle against the French. This was not inevitable; there were other nationalist forces in the country. In

India, Indonesia and Burma at the same time the nationalist movement was non-Communist. It simply happened otherwise in Vietnam.

It is a fact of history that the Communists made themselves the most formidable political force in Vietnamese society, and from the 1940s to the 1970s were able to motivate and sustain an intense popular struggle against two foreign great powers, France and the United States, as well as against their domestic rivals.

The failure of Vietnam's non-Communists may be explained in terms of particular events or personalities, of who was where at a particular time, or by the peculiarities of Vietnamese political and social structure at the time, the superior organizational techniques of the Communists, or the fatal compromise the non-Communists made in taking foreign support.

It is a fact that the anti-Communist Vietnamese failed despite vastly greater economic and military assistance, first from France and then from the United States, than the Viet Minh and its successor, the Viet Cong, ever received from their allies in China and the Soviet Union.

There is no satisfactory single explanation for what happened. It is a matter now for historical investigation and reflection. In the end, however, what happened was the affair and responsibility of the Vietnamese.

This is something Americans failed to understand at the time, and it is something which some Americans, and some Vietnamese, refuse to acknowledge today. It is time to be serious about what happened in Vietnam, and to examine it with the dispassion appropriate to an event that was a political tragedy for Vietnam

— and for Cambodia and Laos as well, which were deliberately implicated in the war by the North Vietnamese, provoking immensely destructive American reactions.

It was also a tragedy for the United States, the most divisive and disorienting event since the Civil War. The problems are still with us, and we might learn something from the past. The wind of revolution that swept five across Vietnam blows elsewhere today, across the Moslem world, in the Pacific, in the Americas.

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## This Baby Is Too Big A Burden

By David S. Broder

WASHINGTON — At 2:30 A.M. Saturday, the Senate of the United States gave birth to a \$606 billion baby called Continuing Resolution, or CR for short. If there is never again such a blessed event, the American public will be fortunate.

The House passed its version of the CR on Dec. 4 — a modest little \$376 billion infant, including 13 separate appropriations bills and some unrelated legislation on broadcasting rules, environmental cleanup deadlines and a few other strays.

The Senate bundled the appropriations bills into its CR, and added a batch of unrelated provisions, mainly bestowing favors on states where Democrats are seeking re-election.

When a conference committee of House members and senators has worked out the differences between the two versions of the CR, the final compromise will be sent to President Reagan for him to sign or veto as Congress flees for the holidays.

Mr. Reagan says that he will veto the package is shaping up. He will veto it. This is as the House minority leader, Robert Michel, said, "absolutely a lousy, rotten way to legislate." And last summer Senator David Pryor, an Arkansas Democrat, said that CR really stands for "combined retreat" or "our admission of failure."

Lumping everything together into one monstrous bill seriously reduces the ability of Congress and its members to make judgments on U.S. spending priorities. It also, and not accidentally, subverts the president's constitutional authority to veto legislation and have that veto count.

When everything from the army's kitchen sinks to experimental drugs at the National Institutes of Health is wrapped into a single bill, passed in Congress's final hour of session, the president must either swallow it whole or accept responsibility for shutting down the government.

This is a new and ugly feature of government. Through most of its history, Congress has passed individual appropriations bills for individual departments or functions and sent them on to the president for his signature or veto. The CR was used only when a particular appropriation was briefly delayed and authority was needed for a department to go on spending for a short time.

But in recent years Congress has fallen into the habit of wrapping all its spending authority into one CR — and then loading it up with other measures to make them "veto proof."

Some blame the development on the new congressional budget process, which began in the mid-1970s, claiming that it has slowed the work of the appropriations committees. But in the past couple years Congress has chosen to repack even largely completed appropriations bills into the CR, rather than send them individually to the president for his approval or veto.

Increasingly the CR has become a vehicle for shoving enormous legislation down a president's throat. The Democratic architects of this strategy are attempting an end run not just around the president but around the country's Constitution.

What is to be done? When the Senate CR came up for action, Senator Daniel Evans, Democrat of Washington, offered an amendment requiring that any future CR must be split into its component parts when it comes to the House-Senate conference committee, so that Congress can vote on each separate appropriation and the president can sign or veto each of them.

Mr. Evans lost by a narrow 51-to-44 margin. Similar legislation offered by Representative Mickey Edwards, an Oklahoma Republican, was killed in the House Rules Committee, which died. Mr. Edwards the chance for a floor vote.

Mr. Edwards's sponsorship is significant. Unlike most other conservatives, he has consistently opposed Mr. Reagan's call for authority to veto individual items in an appropriations bill. The "line-item veto" authority, Mr. Edwards has argued, would tilt the constitutional balance heavily in the executive's direction.

But denying the president his right to act on individual appropriations bills is an infringement on his constitutional authority, Mr. Edwards and Mr. Evans rightly say.

Whatever advantage Democrats may temporarily gain by using the CR device to thwart Mr. Reagan's veto, short-circuiting the Constitution ultimately endangers everyone. Congress should clean up its act before a new president takes office.

The Washington Post.

## 100, 75 AND 50 YEARS AGO

### 1887: Courting the Pope

LONDON — The Duke of Norfolk has gone to Rome as special envoy from the Queen, and a thousand conjectures as to his errand fill the air. The truth I believe to be that the government intends to resume former diplomatic relations with the Vatican, regardless of the popular prejudice which still exists on the subject. Lord Salisbury's government, no doubt, intends to counteract the singular mission to Ireland of Mgr. Persico, who has fallen under the influence of the home rule party. If the Pope can be brought to issue a pronouncement in favor of home rule, a large part of the Irish clergy would be greatly pleased. The government wishes to bring all influence to bear upon the other side.

### 1912: Austria and Serbia

BELGRADE — It is believed here that Austria-Hungary's vast military preparations are intended to back de-

mands of a much more far-reaching nature even than the autonomy of Albania and Serbia's retirement from the Adriatic. The opinion is prevalent that Austria-Hungary is determined to claim special commercial and economic privileges in the Balkan peninsula, at the same time forcing Serbia into a position of commercial dependence upon the Austro-Hungarian Empire. Between economic privileges and political domination in this case there is no dividing line.

### 1937: Japan Apologizes

TOKYO — The Japanese Foreign Office issued a statement [on Dec. 14] reviewing the incidents of U.S.S. Panay, H.M.S. Ladybird and three Standard Oil ships which were attacked on the Yangtze [on Dec. 12]. It announced that apologies had been delivered to American Ambassador Joseph C. Grew by Mr. Hirota, Japanese Foreign Minister. The Japanese government promised that reparations would be made.

JPL 10150



OPINION

# Gorbachev's Two Faces: Realities to Reckon With

By Anthony Lewis

**BOSTON** — Self-confident and charming, Gorbachev who appeared in the United States was both those things. An image of Soviet leaders operating behind walls was shattered by this figure leaping out of his limousine to shake hands on a Washington street. What could show more self-confidence than a Russian ready to play by U.S. rules, pressing the flesh, working the cameras? He charmed even conservatives.

But when he was asked about human rights, he bristled. "We're not going to let the Americans lecture us," he told a group of publishers and editors. "Why doesn't the American administration trust 280 million Soviet people who made their choice of government? And again at his press conference: 'The Soviet people made their choice in 1917.'"

The two Gorbachevs are both realities, and we are going to have to reckon with them. We must try to understand why and how they exist.

When Mr. Gorbachev says that his people "made their choice in 1917," he is not likely to persuade most Americans. The Russian revolution was carried out by a small, disciplined minority. In our sense of democracy, the Soviet people never have had a choice: a free election.

The U.S. Constitution was written by a small elite group of men, but they took extraordinary steps to test public acceptance of their work. Each of the 13 states had its own convention to decide whether to ratify the Constitution, and some were closely divided. The day Mr. Gorbachev came to Washington, Dec. 7, was the 200th anniversary of the first state ratification, Delaware's.

Could it be, then, that some subconscious doubt about the Soviet system's legitimacy explains Mr. Gorbachev's defensiveness? That is a natural thought for Americans, given U.S. history. But those who know the Soviet Union well

see no such self-doubt in the leadership. They offer another explanation.

David K. Shipler was a Moscow correspondent of The New York Times. In his book "Russia: Broken Idols, Solemn Dreams" he describes a time when he was among passengers waiting to get on a plane in Soviet Central Asia. A stewardess made them stand in the rain while she checked their tickets. Finally an elderly man asked whether she couldn't check them inside the plane. She began screaming at him: "Anarchy, anarchy."

From czarist times in Russia, power has looked fragile to those at the top — no matter how formidable it looked from the bottom. There has been a fear of instability, of anarchy. That stewardess, Mr. Shipler said, was genuinely frightened by the idea of changing her routine.

And so today the notion of free debate, of diversity, may arouse fears of anarchy in the Soviet Union. And not only among those who exercise power: The fear runs deep in the culture.

There is another phenomenon that bridges czarist and Soviet Russia, an ambivalence toward the West: "We're better than you, but we envy you." To be treated by foreigners as morally flawed, to be pressured by them, is a matter of extreme sensitivity.

It is possible to understand how a man who seems so at ease with himself as a politician, and so ingratiating, can give angry and unconvincing answers on human rights — for example, that all those kept from emigrating know state secrets, or that the West is trying to organize a brain drain. Mr. Gorbachev cannot be seen, at home, as if he were being pushed around on the issue.

It is probably true, too, that he does not understand American feelings about human rights. He seems to believe that anyone who raises the question, journalist or congressman or whoever, does so only to score a political point.

The misperceptions, the cultural sensitivities, do not run only one way. U.S. citizens find it hard to understand why this chance seems to be available now.

The most important single reason is self-evident: the increasingly heavy toll of lives and material losses suffered by the Soviet Union as a result of the heroic, unwavering resistance put up by the Afghan guerrillas ever since the Red Army invaded the country in 1979.

Since the first days of the Soviet occupation, it has been the Islamic resistance groups, commonly known as mujahidin, that have initiated, organized and led the actual fighting. It is these groups who have suffered most as a result of the Soviet aggression in Afghanistan. Without them, Afghanistan would have been turned into a vassal Communist country much like any one of the satellite regimes in Eastern Europe, if not a part of the Soviet Union itself, like the Soviet republics of Central Asia.



## Islam Holds the Key to an Afghanistan Settlement

Selig S. Harrison's opinion column "A Chance to Serve Peace in Afghanistan" (Dec. 7) suffers from structural flaws and ignores established facts. As he argues, there is a chance — indeed a big one — to serve peace in Afghanistan, but it is essential to understand why this chance seems to be available now.

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I would respectfully suggest that Mikhail Gorbachev donate his \$120,000 peace award from the Indira Gandhi Memorial Trust (People, Nov. 26) to relatives of the thousands of Afghans who have been killed or maimed by the Russian army during his tenure as Soviet leader. Of course, the prize was for his efforts to curb nuclear arms, and the inconsequential Afghans were killed with old-fashioned bullets and bombs.

DON C. YAGER,  
Seeb, Oman.

## Don't Declare Open Season on Infant Parts

By Ellen Goodman

**BOSTON** — Any day now, Brenda Winner is going to give birth to an organ donor. This is a cold, but not inaccurate, way to describe the fate of the Winner's firstborn. The child is slated to become a source of rare and precious parts — a heart, a lung, a kidney, a liver perhaps — for other people's children. At the same time it is likely to become a source of an unsettling debate.

Months ago, the California couple learned that the fetus was anencephalic. Most of its brain was missing. It could not think or feel and was doomed to die. But Brenda Winner chose to carry the fetus to term in the hope that its organs could be used. Using words that mirror the emotions of many donor families, they wanted something good to be wrested out of their tragedy.

So they plan to follow the lead of a Canadian couple, the heart and lungs of whose anencephalic daughter, Baby Gabrielle, are now beating and breathing in a baby named Paul.

After an extensive search, the Winners got permission on Dec. 7 from Loma Linda University Medical Center to deliver the baby there. The hospital will become the first in the country to keep a child on a respirator for up to seven days solely for organ use.

The dramatic weight of such a story lists heavily toward one side. There is a child who is sure to die and a set of parents seeking solace. And there are one or two or three other children who may die without an organ. All these needs seem to dovetail perfectly.

But there is another element to this case: Anencephalic newborns are not brain dead by our current definition. They have a brain stem. They can

breathe and blink and perhaps suckle. If they are allowed to die naturally, their organs will probably be useless. But if they are kept alive so that the organs will be fresh when needed, then is one child being killed for use by another?

When the first such case, Gabrielle, was no longer able to breathe on her own, she was attached to a respirator and flown from Toronto to the transplant site.

**MEANWHILE**

At Loma Linda, the doctors there took her off the respirator and declared her dead. They stayed within the letter of the law about brain death. They may do the same with the Winner baby.

But that does not answer a main question. Should the babies be regarded as a new and welcome source of organs? Or should their use be seen as a dangerous precedent, a crack in the door that will permit the use of others who are not exactly, not legally, dead?

Art Caplan, director of the Center for BioMedical Ethics at the University of Minnesota, supports the use of anencephalics. "I don't think these kids are dead," he says, "but would I take the organs out? Yes. There's no difference between taking the organs and taking them off the machine."

As he sees it, the criteria for organ donation are twofold. The potential donor must be beyond any conscious life and unable to think or experience pain. Death must be imminent, and with 100 percent certainty. But others, Mr. Caplan acknowledges, are fearful

of letting go of what he calls "the gold standard of brain dead."

Alexander Capron, a professor of medicine and law at the University of Southern California, is one who worries about slippery slopes if we let go of the standard. "The initial justification for using these children — they do not have consciousness, they are dying — could apply to a much larger range of patients," he says. "Do we want to take out their organs while they're alive?"

Loma Linda has heard from some 50 sets of parents like the Winners, who hope that their anencephalic children's organs could be used. If I were a parent waiting for a transplant, I, too, would be pained by such "waste."

But it is not time to accept this new crop for harvesting. Nor should the notion of turning respirators on and off, orchestrating life and death for the use of another human being, be accepted.

It has taken decades to adopt publicly the new definition of death to include brain death. Attempts are still being made to educate family members to donate organs of those who have literally died. Should society now be asked to approve the scything of organs from the soon-to-be-dead, virtually dead, as good as dead? It is asking too much.

Washington Post Writers Group.

Letters intended for publication should be addressed "Letters to the Editor" and contain the writer's signature, name and full address. Letters should be brief and are subject to editing. We cannot be responsible for the return of unsolicited manuscripts.

## LETTERS TO THE EDITOR

**Islam Holds the Key to an Afghanistan Settlement**

Selig S. Harrison's opinion column "A Chance to Serve Peace in Afghanistan" (Dec. 7) suffers from structural flaws and ignores established facts. As he argues, there is a chance — indeed a big one — to serve peace in Afghanistan, but it is essential to understand why this chance seems to be available now.

The most important single reason is self-evident: the increasingly heavy toll of lives and material losses suffered by the Soviet Union as a result of the heroic, unwavering resistance put up by the Afghan guerrillas ever since the Red Army invaded the country in 1979.

Since the first days of the Soviet occupation, it has been the Islamic resistance groups, commonly known as mujahidin, that have initiated, organized and led the actual fighting. It is these groups who have suffered most as a result of the Soviet aggression in Afghanistan. Without them, Afghanistan would have been turned into a vassal Communist country much like any one of the satellite regimes in Eastern Europe, if not a part of the Soviet Union itself, like the Soviet republics of Central Asia.

I would respectfully suggest that Mikhail Gorbachev donate his \$120,000 peace award from the Indira Gandhi Memorial Trust (People, Nov. 26) to relatives of the thousands of Afghans who have been killed or maimed by the Russian army during his tenure as Soviet leader. Of course, the prize was for his efforts to curb nuclear arms, and the inconsequential Afghans were killed with old-fashioned bullets and bombs.

DON C. YAGER,  
Seeb, Oman.

## A Fresh Current of Thought

The opinion column written by Richard M. Cyert and Jean-Jacques Servan-Schreiber, "Untie the SDI Knot With an Offer of Joint Research" (Dec. 1), was first-rate. Sharing the research task between the United States and the Soviet Union is a brilliant idea. It is an example of the many acts of leadership which the authors say are needed to overcome the mutual distrust at the root of the military buildup that has absorbed so much of the world's resources.

While I agree with such urgent steps, it seems to me that the strong leadership of academics, scientists, journalists and other opinion leaders is best directed to moving world opinion away from the parochial view of a divided planet organized around obsolete nation-states to the vision of a united world. This is, of course, a long and difficult process; but it must start sometime. It requires a profound change propelled by a fresh current of thought capable of changing world opinion, not unlike the philosophical movements that prepared the French and American revolutions in the 18th century.

JOSE A. MESTRE,  
Gstaad, Switzerland.

## Gorbachev: Not Special

"Is Gorbachev as 'Special' as Reagan Thinks He Is?" The answer to your Dec. 10 headline is no. Mikhail Gorbachev is a younger and smarter and not-to-be-trusted successor to previous Soviet leaders. A wolf in sheep's clothing. The signing of the missile treaty is strictly for economic and political reasons. Neither country can afford the missiles, and in this election year President Reagan cannot afford offending American voters.

VIRGINIA L. ASKEW,  
Saarbrücken, Switzerland.

Doug Macgregor's opinion column about how an economically sounder Soviet Union would represent an "even greater" military threat is frightening because the writer is a professor at West Point. ("Gorbachev Isn't About to Starve His Army," Dec. 4.) He demonstrates the spirit in which the West's military is educated. Mr. Macgregor uses the tactics of many columnists, making a flat statement as fact and deducing a thesis from it. The statement itself is presented as if it needed no proof. Mr. Macgregor's declares that the Soviet state is involved in a "long-term effort to dominate Eurasia."

There is no historical foundation to this statement. It is generally accepted that Soviet policies in postwar Eastern Europe are comparable to the prewar West's *cordon sanitaire* — intended, in Russia's case, as a historically justified protection against invasion from the west. The Russian border is well to the east of where it was in 1914, before Russia lost to Germany in one world war and then won in the next one, recouping its losses. The Soviet record in Finland, in Austria, at the Chinese border and even in Afghanistan is one of defensive action and fear — if sometimes paranoid fear. The "threat" is mostly Made in West Point.

H. KONING,  
London.

## Why the Rights Issue

AS Mr. Gorbachev described it during his U.S. visit, the "human rights" issue as raised by Westerners is an excuse to tell the Soviet Union how to behave, or to impose Western values.

Americans respond that because the Soviets have signed agreements promising to respect certain rights, rights are a legitimate matter of concern.

But there is a better reason for pressing Mr. Gorbachev and his colleagues on human rights. If the Soviet Union will not trust its own citizens to read foreign publications, or to know the truth about how much their government spends on weapons, or to express their skepticism about official policy, then how can the Soviet leaders expect outsiders to trust the Soviet Union?

Robert Kaiser, in the Washington Post.

105,000

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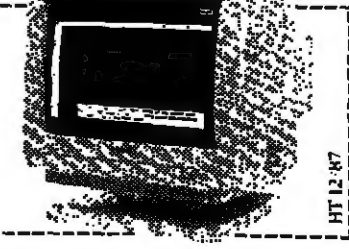
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PHILIPS



## Southeast Asians Agree To Tighten Trade Links

By Barbara Crosse  
New York Times Service

MANILA — The leaders of six Southeast Asian nations opened their first summit meeting in a decade on Monday and called for greater economic cooperation among themselves and an end to the Vietnamese occupation of Cambodia.

Agreements to reduce regional trade barriers and begin more joint ventures among members were endorsed without reservation by the six leaders: Presidents Corason C. Aquino of the Philippines and Suharto of Indonesia; Prime Ministers Lee Kuan Yew of Singapore, Mahathir bin Mohamed of Malaysia and Prem Tinsulanonda of Thailand, and Sultan Minda Hassanal Bolkiah of Brunei Darussalam.

But there is still uncertainty on how to proceed on the region's most vexing security and political problem: the presence of up to 140,000 Vietnamese troops in Cambodia, and 40,000 in Laos.

A week ago, there were high hopes for at least the foundations for a solution to a nine-year-old guerrilla war in Cambodia.

In early December, Prime Minister Hun Sen of Cambodia and Prince Norodom Sihanouk, who leads a resistance army against the Hun Sen-backed Phnom Penh government, met for the first time, in France. In an atmosphere of cordiality, they announced that they were set to begin a process of negotiation.

Then, at the end of last week, Prince Sihanouk suddenly canceled two future rounds of talks.

The prince, on temporary leave from his position as head of the resistance coalition, which holds the country's seat at the United Nations, indicated first that he could not go on with negotiations without the backing of his two co-

alition partners, the noncommunist Khmer Peoples' National Liberation Front and the communist Khmer Rouge. He later was reported to have also lashed out at Phnom Penh for attempting to make him a "lackey of the Vietnamese."

The sudden turnaround caught the Association of South East Asian Nations off guard. Most of all, it has caused consternation in Indonesia, whose foreign minister, Mochtar Kusumatmadja, has been acting as the organization's go-between with Hanoi.

Last summer, Mr. Mochtar was reported to have been told by the new Vietnamese Communist Party leader, Nguyen Van Linh, that the Cambodian war was exacting a toll on Vietnam — the first such admission by a Vietnamese leader, according to officials close to the Indonesian leadership.

Mr. Mochtar had been confident that a negotiating procedure could be sustained, given Vietnam's new posture. Diplomats in Phnom Penh said that the Soviet Union had also apparently decided to press for a resolution in Cambodia that would reduce its presence there.

Prime Minister Lee Kuan Yew of Singapore reflected these views when he said in his opening remarks that "the communist countries of Vietnam, Laos and Cambodia are in distress."

Some officials in the association are now concerned that Prince Sihanouk, who is seeking to explain his position more fully in talks with regional leaders next month, might be planning to return to Cambodia for personal reasons, without reference to the policies of ASEAN, which has demanded the withdrawal of Vietnamese troops as a prerequisite to a settlement.

The prince, who recently turned 65, has said often that he fears dying outside his native country.

## Gorbachev Tops Reagan in U.S. Poll

By Richard Morin  
Washington Post Service

WASHINGTON — Americans with a favorable view of Mikhail S. Gorbachev now outnumber those with a favorable opinion of President Ronald Reagan, although the summit meeting last week produced immediate but perhaps temporary political gains for Mr. Reagan and reversed sagging public confidence in his administration.

The latest Washington Post-ABC News survey disclosed that nearly two-thirds of those interviewed — 65 percent — said they had a favorable impression of Mr. Gorbachev, while 61 percent said they had a favorable view of Mr. Reagan.

However, Americans did view Mr. Reagan as more effective than Mr. Gorbachev at the summit talks: 42 percent of those surveyed said Mr. Reagan did the better job at the meeting, while 26 percent chose Mr. Gorbachev.

The survey also showed increased support for the treaty on intermediate nuclear forces, which banned medium- and shorter-range missiles in Europe. This was probably due to the unrelenting positive publicity about the agreement during the summit week.

Slightly more than three out of five Americans — 62 percent — said they favored the INF agreement, up 10 percentage points from a Washington Post-ABC survey conducted prior to the meeting.

When those who said they had no firm opinion were asked which way they were leaning, support rose to 82 percent.

Only 6 percent opposed the treaty. But the Reagan presidency may have been the clearest early winner of summit week. The evidence:

Mr. Reagan's overall job approval rating surged eight percentage points to 58 percent in less than two weeks to the highest it has been this year.

Almost three out of five, 57 percent, said they approved of the way Mr. Reagan was handling foreign affairs, his best showing in 15 months and up 11 percentage points in less than two weeks.

More than three out of four, 77 percent, said they approved of the way Mr. Reagan was handling relations with the Soviet Union, up 11 percentage points since the pre-meeting poll and the best rating of his presidency.

Nearly half, 49 percent, said the United States was generally going in the right direction, up from 35 percent in the survey before the meeting.

The survey was conducted from Dec. 11 to Dec. 13.

A total of 1,007 adults nationwide were interviewed by telephone for the poll.

The margin of sampling error for the overall results was plus or minus three percentage points.

## RADAR: U.S. Sets Treaty Condition Ceausescu Promises Pay Increases

(Continued from Page 1)

could not be used to manage a nationwide ballistic missile defense system, which the treaty barred.

The Soviet network of nine electronic phased-array radars initially was planned by the Soviet Defense Ministry during the late 1960s, Soviet and U.S. sources said.

According to several sources, Soviet defense officials placed eight of the radar complexes at border sites, but chose the Krasnoyarsk site to save money. Had it been placed closer to the periphery, as required by the treaty, more than one facility would have had to be built and the cost would have been 10 to 20 times larger, sources said.

The Politburo approved construction of the network in the ear-

ly 1970s, about the time the treaty was being signed.

A Soviet official said that Mr. Ustinov did not tell the Politburo that Krasnoyarsk potentially violated the treaty, but that Andrei A. Gromyko, then the foreign minister and a Politburo member, must have known, as the Politburo legal staff must have.

The Soviet Defense Ministry, sources said, expected the violation to be discovered by U.S. satellites, but counted on containing Washington's protests for years in the U.S.-Soviet committee set up by the ABM treaty.

The Soviets hoped to be allowed to continue construction in exchange for dropping objections to what they would charge were U.S. violations. At first they brought up the so-called Pave Paws phased-array radars being built at air force bases in Massachusetts and California, and later the U.S. upgrading of radar units in Fylingdales, England, and Thule, Greenland.

When Mr. Reagan announced his space-based anti-missile program, the Strategic Defense Initiative, in March 1983, Soviet defense officials used its potential to break the ABM treaty.

The Pentagon discovered the construction at Krasnoyarsk in July 1983, more than 18 months after it began, U.S. sources said. About a month later, a U.S. source said, the issue of the radar complex was raised with the Soviet Union at the joint consultative committee.

The Soviets described it then as a "space-tracking" facility allowed under the ABM treaty.

## Ceausescu Promises Pay Increases

Compiled by Our Staff From Dispatches

BUCHAREST — President Nicolae Ceausescu, admitting that Romania faced serious problems, combined pledges of pay increases for workers Monday with promises to maintain the high rates of industrial development that have triggered food shortages and unrest.

In a four-hour speech to a special session of the Romanian Communist Party, Mr. Ceausescu stressed that he would not waver from his drive to pay back the country's foreign debts, blamed for causing the shortages, as quickly as possible.

Mr. Ceausescu strongly defended central planning and underscored his opposition to a Western-type market economy and even to Soviet-style economic reforms.

He criticized "a weakening of the spirit of responsibility, combativeness, proper organization, discipline and order, of the party spirit, of the revolutionary attitude toward work."

Mr. Ceausescu asked the meeting to pass a resolution calling for a 10-percent pay rise for all workers, beginning in summer 1988.

He made the announcement a month after workers, angered by severe food and energy shortages, held the biggest political protest in Romania since the Communists took power in 1947. Workers rioted in Brasov, the country's second-largest city, in mid-November.

"We understand the role of the economic laws," he said, "but we can hardly admit that the settlement of the problems posed by economic and social development might be determined by the law of supply and demand, by market laws."

"It is difficult to ensure progress through so-called market socialism," Mr. Ceausescu said.

Romania has cut its foreign debt from more than \$10 billion to less than \$6 billion in less than five years. At the current rate, it should have paid them all off by 1991.

(AP, Reuters)



Backers of South Korean presidential candidate Kim Dae Jung brandishing banners and placards in a rally at Suwon, near Seoul, on Monday, as the long campaign nears its end.

## KOREA: TV Reporters Sit Down

(Continued from Page 1)

would continue their protest until three demands are met: a promise of fair reporting, the resignation of their news director and a change of policy to give more discretion to on-the-scene reporters.

Opposition parties have charged that the government is preparing to swell Mr. Roh's vote total by casting ballots for Koreans who have moved overseas or died, by buying votes and through other fraudulent means.

Opposition candidates also have charged that the ruling party intimidated many of the nation's 600,000 soldiers into marking Mr. Roh's name on their absentee ballots.

The elder brother of a soldier allegedly killed by superior officers last week charged in a news conference that the beating resulted from the soldier's insistence on voting for Kim Dae Jung.

Kim Dae Jung made the same charge last week. The Defense Ministry acknowledged that the soldier was killed several hours after he voted when a sergeant inflicted overzealous discipline, pushing the recruit so that he hit his head on the edge of a metal locker.

But the ministry said the discipline was unrelated to the soldier's vote.

Mr. Roh's name on their absentee ballots.

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## President Opens Drive For Treaty Ratification

By David Hoffman  
Washington Post Service

WASHINGTON — President Ronald Reagan began a campaign Monday for Senate approval of the treaty to eliminate intermediate-range nuclear forces that he signed last week with Mikhail S. Gorbachev, the Soviet leader. He said the elimination of missiles in Europe would not divorce the United States from its NATO allies.

"We'll keep our American servicemen stationed in Western Europe," Mr. Reagan said in a speech at the Georgetown Center for Strategic and International Studies, a foreign policy research organization in Washington.

"What more convincing form of coupling could there be than these hundreds of thousands of Americans and their dependents living and working among our European allies?" he asked.

Mr. Reagan said the United States would remain committed to the doctrine of "flexible response" under which nuclear weapons on land, sea and air are kept in Western Europe as a deterrent against Soviet attack.

The president said there would be no further reductions in these nuclear arms until efforts were made to "address" the Soviet numerical advantage in conventional forces.

Mr. Reagan suggested indirectly that the allies would be asked to bear a greater defense burden in the future.

He noted that the United States had been a dominant partner in the North Atlantic Treaty Organization since its inception and said that "now the alliance must become more and more an alliance among equals."

The president also called for efforts to redress the Soviet advantage in chemical weapons.

Mr. Reagan's remarks generally repeated known positions and were part of his effort to pave the way for a Senate vote on the INF accord, expected in the spring.

He said the start of Senate ratification hearings next month would "lay out the case" for the treaty.

Mr. Reagan also said the United States and Soviet Union made "concrete" progress toward an agreement to sharply reduce long-range strategic weapons.

At their summit meeting last week, Mr. Reagan and Mr. Gorbachev agreed to disengage on the testing of a space-based defense system, and Mr. Reagan made only brief mention of this in his speech on Monday.

"When we have a strategic defense ready to deploy," he said, "we will do so."

## NORIEGA: Search for Allies

(Continued from Page 1)

they were surprised to learn several weeks ago from Major Miranda that, in August, General Noriega told a Nicaraguan intelligence official he was prepared to supply arms to the Salvadoran rebels. Support for the government of El Salvador against the rebel forces is one of the cornerstones of U.S. policy in the region. Major Miranda, a defector, also suggested that General Noriega was providing intelligence information on American activities in Panama to the Sandinistas.

Elliot Abrams, the assistant secretary of state for inter-American affairs, said the allegation that General Noriega was helping the Salvadoran rebels was "extremely troubling."

"We need to use this as a basis to look for additional evidence," he said. "Generally speaking, we find Major Miranda to be well informed or else we would not present him to the public as someone who deserves to be believed. What I cannot tell you is that what he says about General Noriega is supported by other evidence."

Last week, Major Miranda said that the Sandinistas had maintained a relationship with General Noriega since the 1979 revolution, but had decided earlier this year to exploit the growing rift between the United States and Panama.

Major Miranda said that contact with General Noriega was maintained through Ricardo Wheelock, the Sandinistas' head of military intelligence. He said that this year, Mr. Wheelock traveled to Panama in June and related to General Noriega details of a purported plot by the U.S. government to kill him.

"This actually had no basis in fact," said Major Miranda. "Humberto Ortega said it was logical to assume that this could happen and it definitely would sensitize Noriega and bring him closer to us. According to what Ricardo said, it sensitized him quite a bit."

In August, Mr. Wheelock made another trip to Panama. According to Major Miranda, General Noriega asked him if Nicaragua would agree to allow him to send arms to the Salvadoran guerrillas through Nicaragua. General Noriega disclosed to Mr. Wheelock that he had already met in Panama with some of the leaders of the Salvadoran rebels.

Within the Reagan administration, General Noriega had been backed by Pentagon and CIA officials.

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Gr. Britain £	130	40	72	34	40	27
Greece Dr.	22,000	45	12,000	40	6,600	34
Ireland £Ir.	150	45	82	40	45	34
Italy Lire	380,000	42	210,000	36	115,000	30
Luxembourg L.Fr.	11,500	37	6,300	31	3,400	25
Netherlands Fl.	650	40	360	34	198	27
Norway (post) N.Kr.	1,800	38	990	32	540	26
— (nd. del.) N.Kr.	2,300	21	1,270	13	700	4
Portugal Esc.	22,000	52	12,000	47	6,600	42
Spain (post) Ptas.	29,000	41	16,000	35	8,800	28
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# Technology Quarterly

Issue No. 3

## DEPARTMENTS

### Workplace 8

Fiat's Ternoli engine plant was a technological breakthrough when it opened in 1985. Next month, the company will take innovation a step further with startup of a fully robotized body and final assembly plant.

### Computers 8

After Wall Street's "Black Monday," instant analysts seeking a scapegoat were quick to point to computers. But behind the machines, there is man.

### Developments 9

The world's first fusion reactor moves closer to reality with a multi-nation, East-West agreement to join forces — and resources — on an experimental design.

### Business 10

Air express companies are in the midst of a technological revolution as they race to get your packages from there to here, faster and more reliably. Meanwhile, European and Japanese companies are pushing ahead with development of cinema quality, high-definition television.

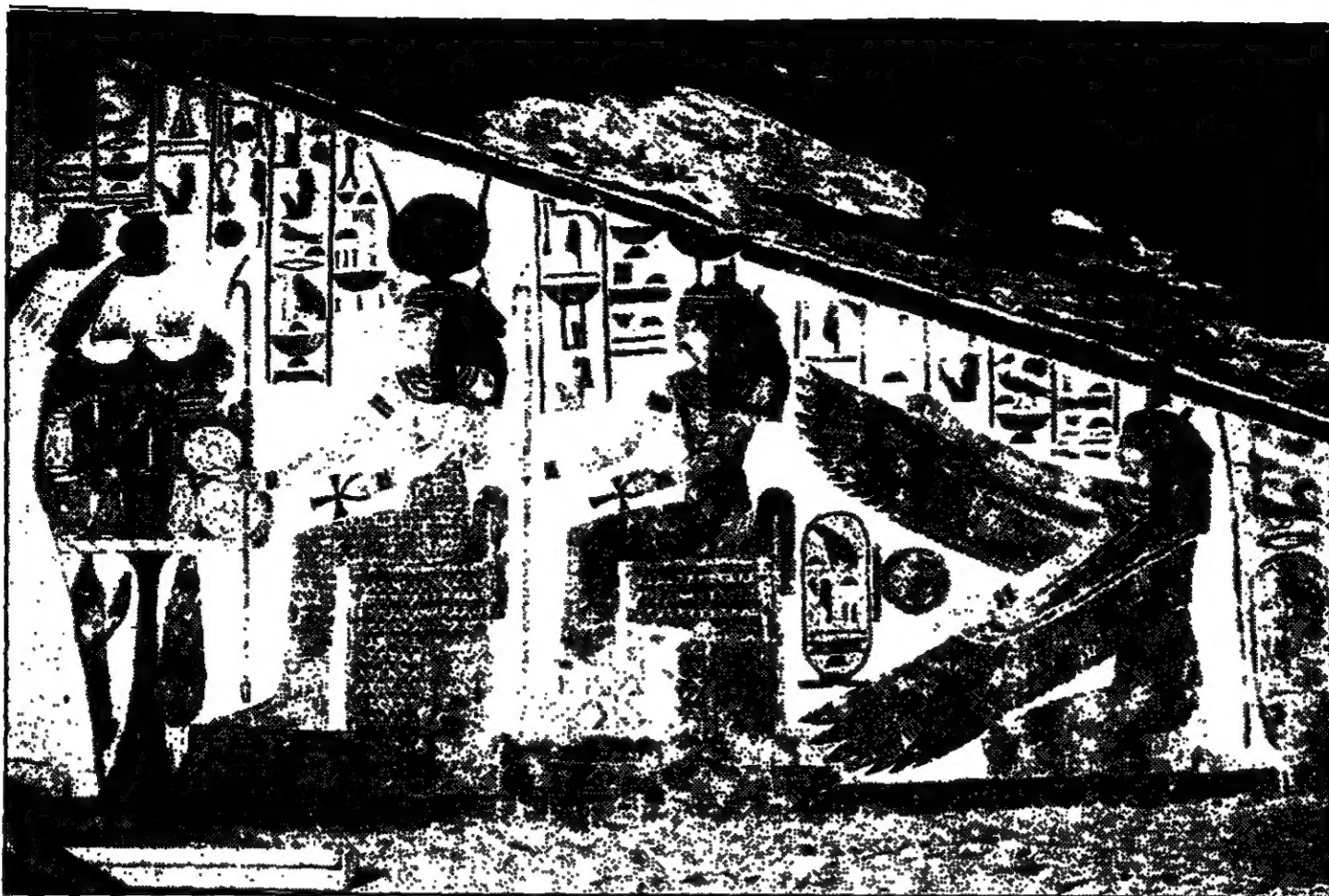
### Research 11

Two Japanese companies have developed a wafer-thin battery that could be used in "smart" cards. The Pentagon is backing research in gallium arsenide integrated chips. In Notebook.



### Next Issue

Some countries fare better at fostering the research environment that will result in tomorrow's technological breakthroughs. Is there more to their success than cold, hard cash? These and other issues on March 16, in Technology Quarterly.



Damaged wall paintings in the Luxor tomb are being studied with X-ray diffractors and electron microscopes.

## Man, Machines Restore a Measure Of Life in the Tomb of Nefertari

By Souren Melikian

**L**UXOR, Egypt — In a few years, if all goes according to plan, the first visitors other than archaeologists, scientists and restorers will walk down into the funerary chambers that were dug out, some time after 1255 B.C., on a hillside at Luxor, in Upper Egypt. The embalmed body of Queen Nefertari, "Great Royal Wife, Lady of the Two Lands, Appearing like Gods, the Beautiful-Faced One..." was deposited there. But it had long vanished when Italian archaeologists opened the tomb in 1904.

Few tourists will suspect that without modern technology they might not have been able to set eyes on the mural paintings celebrating the main wife of Ramses II.

They will gaze at brightly painted scenes in a miraculous state of preservation, which for the greater part have come down to us with their outline and color scheme unchanged over 3,250 years or so, during which they survived at least

### New tools offer unprecedented information.

one break-in, in ancient times, possibly about the Roman period.

More importantly, they have survived substantial damage since the tomb was discovered by Ernesto Schiaparelli. The causes of the damage have varied from kicks by passing visitors, detaching bits of plaster, to clumsy "restoration" work, including crude overpainting. Recent changes of climate in the Luxor area noted by a Canadian team from Toronto University, which investigated the tomb from 1977 to 1981, have also worried scientists.

Above all, a slow but ominous transformation of the painted surface appeared to be under way. Years were wasted. During this time, amateur-

ish reports were made, and, to quote two Egyptian officials, "scientifically motivated surveys and exploratory missions... produced only general memoranda." It is probably no exaggeration to say that the intervention of the Getty Conservation Institute turned the tables and rescued one of the most precious heirlooms of the Ancient World.

Two key men made this possible: Ahmed Kadry, who was appointed director-general of the Egyptian Antiquities Organization in 1977, and Luis Moural, who became the director of the Getty Conservation Institute in 1985.

Mr. Kadry was first made aware of the urgency of the problem by the Cairo University Report published in July 1980, which discussed, among other problems, the infiltration of salt-laden rainwater. Three Canadian reports, particularly "Chemistry and Physics in the Tomb of Nefertari" and "The Internal Climate of Nefertari," deepened his anxiety in the face of a lack of funds and the inertia of international organizations.

It is at this juncture that Mr. Moural appeared. A trained archaeologist and art historian, who was secretary-general of the International Council of Museums (ICOM) from 1974 to 1983,

Continued on page 11

## New Radar Systems Peer Farther, Hide Their 'Signatures'

The USS Stark incident showed dependency on radar sensors and their deficiencies.

By John A. Adam

**W**ASHINGTON — Radar sensors on the AWACS seamy aircraft flying oval patterns over the Gulf last May 17 detected an unknown aircraft around 7:55 P.M. The crew designated the blip "Track 2202" and alerted U.S. ships in the area through the Navy Tactical Data System. There was no immediate cause for alarm.

As the aircraft headed farther south, AWACS updates on Track 2202 became more frequent, and radars and other electronic apparatus on ships confirmed the blip to be a single Iraqi F-1 Mirage fighter flying about 3,000 feet (914 meters) above the water.

Around 9 P.M., the lone Iraqi pilot switched on his Cyrano IV fire-control radar to search for targets abetting Iran. Crewmen of the USS Stark, hunched over luminous screens in the darkened combat information center, picked up the emissions and realized that the fighter was within striking distance.

The rest is known all too well. Through a series of blunders, the Stark failed to ward off two radar-guided Exocet missiles fired by the Iraqi plane. Remarkably, the launchings of the missiles apparently went undetected by the ship's various radar operators.

The navy's report on the incident was released in October. The version sanitized for the public masks out all sections involving the performance of the Stark's radar, leading some readers to conclude that human error was entirely to blame. But reading between the lines makes it apparent that glitches in the ship's radars and electronics may have contributed to the disaster, as the Stark's former captain, Glen R. Brindel, contends.

The missile "wasn't seen on any of the ship's radars," Captain Brindel says. "If the sensors would have divulged the things they should have, then I'm sure my TAO [tactical action officer] would have taken additional measures."

The Stark controversy not only shows how dependent ships, aircraft and missiles are on radar sensors but also points to deficiencies in some of today's systems. Most search radars like those on the Stark, which belongs to the navy's newest class of frigates, rely on mechanically steered antennas that re-scan an area every few seconds, a relatively long time in many hostile situations.

The slow scan-time problem is exacerbated when radar is called upon, so to speak, from navigation to tracking of hostile and friendly forces to directing missiles to their targets. Is the stalwart sensor, relied on since World War II, still up to the job?

**R**ADAR (radio detecting and ranging) is often referred to "passive" infrared or optical sensors because it measures distance accurately and can therefore be used to distinguish target range. It has the added benefit of long-range detection and the ability to see no matter what the weather. But its strength is also a military liability. By emitting signals, radar often gives away its identity because it has a distinctive "signature" based on its transmission parameters.

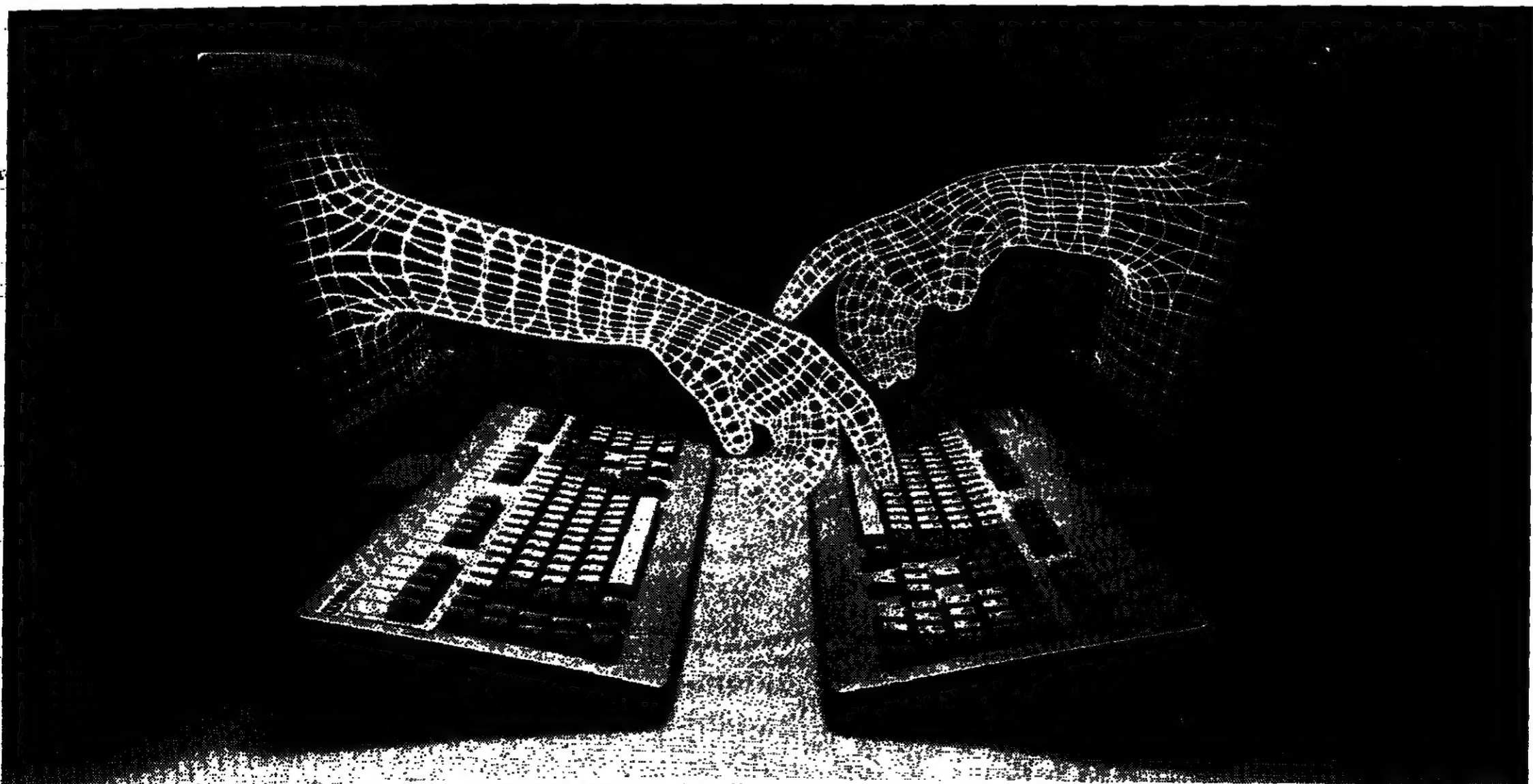
Passive sensors, those that rely solely on receiving emissions from potential targets, are often good for identifying targets but cannot measure range well. Without knowing the emitter's strength, it is impossible to determine how its signal was affected by distance. The U.S. military now favors a mix of "active" radar and passive sensors to monitor its adversaries.

New radar systems range from colossal over-the-horizon backscatter radar, which bounces waves off the ionosphere to detect aircraft as far as 2,000 miles (3,232 kilometers) away,

Continued on page 10

## The electronic factory: teaching machines to like one another.

Innovative technology from AEG. Here's more:



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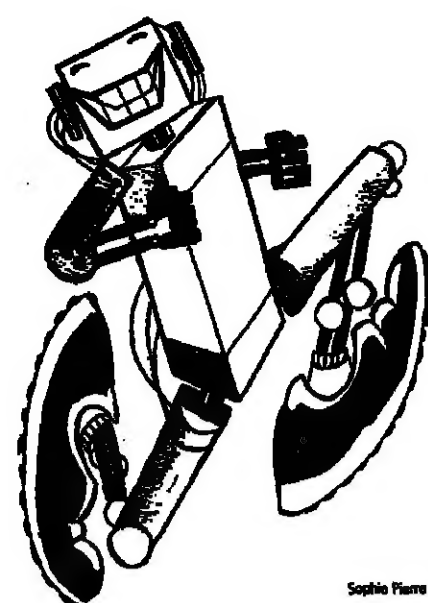
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## TechnologyWorkplace



### Leggy Robots Get New Gait In Lab Room

**N**EW YORK — Although there are robots that move around American factories on fixed tracks or computer-controlled vehicles, most are fixed firmly to the floor.

Things are livelier in the laboratory. A handful of researchers are slowly chipping away at the formidable challenge of mounting robots on reasonably nimble legs. One research team led by Professor Marc Raibert at the Massachusetts Institute of Technology recently succeeded in getting a quadruped robot that formerly tottered to bound across their 55-foot (16.7-meter) room.

"It looks like a slow run," said Professor Raibert of the device's newest gait, which should help scientists learn more about how humans and animals move and balance.

On a less cerebral front, Odetics Inc., a company based in Anaheim, California, is currently working on a six-legged maintenance robot for the Electric Power Research Institute. Although the device, designed for work inside nuclear power plants, is not scheduled for delivery to the research group until the end of next year, Odetics is already working with the University of Florida to design the next phase in robotic maintenance machines — a snake.

"The robot snake is targeted for spaces where you have mazes of pipes," said Thomas Bartholet, general manager of Odetics' Intelligent Machines Division. Odetics envisions a 30-foot device, made up of 2-foot segments with wheels on each side. It would carry tools on its back and the first 10 feet would operate like a robot arm when it gets to its destination. (NYT)

## Robotized Fiat Plants Look Toward the 'Disposable Car'

The goal is the opposite of Henry Ford's Model-T.

By Henry Tanner

**T**ERMOLI, Italy — When it was opened in March 1985, the Fiat engine factory south of this small fishing town on the Adriatic coast was a technological breakthrough.

Built to produce a new engine for small cars — the FIRE-1000, standing for Fully Integrated Robotized Engine — it marked, according to Fiat, the first successful attempt by an automobile manufacturer to design and develop a new factory and a new engine together at the same time, shaping each for the best advantage of the other.

"We designed the technology to produce this engine, and we developed the engine to be produced by this technology, with the best possible combination for both," said Paolo Marinsek, the young aeronautical engineer who is the plant's director.

Leading a visitor past a mile-long row of diversely colored, odd-shaped and seemingly unattended machines in perpetual motion, he said, "You imagine how excited we were. This had never been done before; we put the machinery down on the grass and built the factory around it."

Current production is 2,700 engines a day, with a workforce of 900, including office staff, and will reach 3,000 by the end of next year, according to Mr. Marinsek.

The Termoli engine plant, still one of the most highly robotized in the world, has a special place in the development of Fiat technology. The next major innovation is a fully robotized body and final assembly plant at Cassino, north of Naples, where the group's new medium-size model — the Tipo — will go into production on Jan. 26.

The final assembly facility at Cassino, Fiat executives say, will be a novelty in automobile manufacturing because all the elements of the car, from engines and gearboxes to the doors and seats, will be assembled and fitted into the body by a fully automated system of computer-guided robots for the first time.

The new facility will be for final assembly what Termoli was for engines. The product and the factory — the new car and the new system of robots — have been developed simultaneously, each with the other in mind.

The Tipo, a hatchback, will replace the Ritmo as Fiat's medium-range model, between the small Uno and the large, more expensive Croma. The medium-range market accounts for about a quarter of all automobile sales in Europe.

Cassino, like Termoli, will be a "milestone"



In the "robogate," big, gate-shaped robots take in auto body parts and turn out fully welded bodies.

in automobile manufacturing. Fiat officials say, biting their tongue to keep from using the immodest word "revolution."

Both concepts were developed and tested at Mirafiori, the company's sprawling main plant in Turin. It took three years of experimenting before Termoli was ready for construction and at least as long to lay the groundwork for the new facility in Cassino, which has been producing the Ritmo.

There is a logic in progressing from Termoli to Cassino because engine production lends itself more easily to robotization than most other phases of automaking.

One of the secrets of Termoli was that the FIRE-1000 engine was designed to have almost a third fewer component parts than conventional engines, namely, 273 rather than the 368 of previous standard Fiat engines.

**B**Y contrast, the process of final assembly in Cassino may involve as many as 5,000 variations, depending on styling, options and finishing touches, in response to constantly changing consumer tastes, officials say.

Mirafiori and Rivalta, the two factories in Turin, remain the hub of the group's automobile manufacturing operation.

They made their own first leap into high technology in 1978, when paint spraying and spot welding were robotized, the latter in an installation called "robogate" because its big, gate-shaped robots swallow the disconnected parts of a car body and moments later, in a burst of sparks, spit them out as fully welded bodies.

This was the foundation for the launch in

1983 of the Uno, Fiat's first experience in developing a new factory and a new product simultaneously as a single concept, at a total cost of about \$1 billion.

Now the plan is to close the industrial cycle and bring the new technologies of Termoli and Cassino back to where they started, in Mirafiori, for the production of the successor to the Uno.

Engineers at Termoli and Mirafiori are working on the adaptation to other engines of the robotization methods used for the FIRE-1000.

Also in the development stage is a new facility in Termoli for computer-steered robotized production of gearboxes, using more than 180 different robots. This will replace the conventional gearbox production plant next to the new engine plant. The robotization of gearbox production is more difficult than that of engines because it involves many more moving parts, according to Mr. Marinsek.

Coman, the Fiat group's own manufacturer of robots and robotized systems, has played a key role in all these innovations. In Termoli, Cassino and the two plants in Turin, it has designed systems using its own robots and those of many other manufacturers. It has sold its systems to other automakers, including General Motors, Toyota, BMW, Ford Europe and, most recently, Jaguar.

From Mirafiori (and the Uno) to Termoli, to the new Tipo plant in Cassino and back to Turin for the Uno's successor in the 1990s, the guiding principle is always the same, Fiat executives say: maximum flexibility.

The goal is the opposite of Henry Ford's

Model-T, they say. Instead of the largest possible number of cars to be produced by the same machinery, they are trying to come up with a technology that permits them to change from one variation to another, and even from one model to another, in the shortest possible time at the smallest cost.

They point out that Lancia Thema and Fiat Croma are taking turns being assembled by the same machines at Mirafiori. At various neuralgic spots in the factory, Coman engineers are supervising the installation of new machinery that will make such changeovers quicker and more commonplace.

Fiat, says one of its executives, has pioneered the "pessimistic" approach to automobile production.

The reasoning goes like this: "We are not Japanese, we are in Europe; we know the market is limited and will probably shrink. The goal, therefore, is not to produce the greatest number of cars most cheaply but to get the lowest possible break-even point at which we can hold production of one model, or one variation of a model, and still be profitable."

Japanese factories, he said, may be producing anywhere between 6,000 and 8,000 cars a day; the Uno, Fiat's best-selling car, is produced at 3,200 a day.

Fiat executives decline to name the break-even point for the Uno. But it is known that the \$1 billion investment for the model was amortized in less than three years.

The group now produces between 25 and 30 cars per worker per year, not counting the

Alfa Romeo plants that were added to the group earlier this year. The figure was 14 cars per person a year in 1981.

The group has formed separate joint ventures with IBM and Digital in a bid to achieve an advanced system of Computer Integrated Manufacturing embracing all its operations.

Cars are increasingly like household appliances, an industry analyst said, "they are supposed to be inexpensive and to have a reasonably long lifespan with a minimum of maintenance and repairs, and only maximum automation can produce this and still reduce the price."

"They are trying to invent the disposable automobile," said a banker dealing with car companies.

At Termoli, the production lines are switched on at 6 A.M. Monday and keep running until 6 A.M. Saturday. The workforce of 900 men and women work around the clock in three daily shifts for five days.

They operate computers and man testing stations and other islands of human activity along the more than 2 kilometers of machining and assembly lines.

In between the human islands, the robots at different shapes and colors with articulated arms and fingerlike claws move incessantly and in virtual silence; they select components, lift them, turn them around, lower them into the right position and insert them delicately into a bigger part that then moves on to the next robots.

A lighted panel above the entrance to the headquarters building registers the daily production. At 17:13 P.M. the other day it stood at 1,207 engines for the day.

**T**ERMOLI, halfway between Pescara and Bari on the Adriatic coast, is part of an agricultural region, although better off than many of the other southern regions, it is unmistakably part of the Italian South.

The workers have been recruited locally. Many of them are women, and for most of them this is their first industrial job. They go through a training period of eight months.

"Many find it at first more difficult than their counterparts in Milan and Turin, where young people grow up in an industrial environment," said Mr. Marinsek.

The factory has become a point of local pride. Sandro Pertini, when he was president, came to visit. The king of Sweden was here recently, and Japanese delegations just keep coming.

Mr. Marinsek, who is 36, has returned the compliment and gone to Japan. He concluded that his plant was at about the same level of automation in some aspects as the Japanese plants and "more advanced than they in others." But worker productivity is still higher in Japan, he said. "The average age of our workers is 47, in the Japanese plants it is 32; they live in an unbelievable hurry."

HENRY TANNER is on the staff of the International Herald Tribune.

## World's Plan to D

By Robin Herman

**P**ARIS — The four world leaders in fusion power research — the Soviet Union, the U.S., the European Community and Japan — have agreed to develop a plan for the world's first nuclear fusion reactor.

The project, called the International Thermonuclear Experimental Reactor (ITER), would be the first of an advanced demonstration reactor plant and would prove the engineering feasibility of fusion as a clean power source.

ITER is expected to take three years to design and build, and cost about \$1 billion. The design will be shared equally among the four nations, which will also build and operate the reactor.

When the phase is complete, the four nations would build a second reactor, which would be a full-scale demonstration of fusion power. At a cost of \$2 billion, it would be the world's first fusion reactor.

There is a great deal of interest in the project, which is seen as a key to solving the world's energy needs. The project is being led by the International Atomic Energy Agency, which provided over the four nations with the technical details of the project.

The design team was headed by the French Institute of Physics at Gif-sur-Seine. The team has agreed to build the first reactor in the form of a tokamak, a kind of doughnut-shaped reactor.

The design has been approved by the four nations, which will now begin to build the reactor. The project is seen as a key to solving the world's energy needs.

A fusion reactor would extract energy from the nuclei of light atoms by forcing them together under conditions of extremely high heat — about 100 million degrees Celsius.

## Hong Kong

By Gary Adelman

**H**ONG KONG — As elsewhere in Asia, the electronics industry in Hong Kong has grown rapidly in recent years, becoming an essential ingredient in the territory's overall mix of exports.

In 1986, Hong Kong's electronics exports accounted for almost 10 percent of the territory's total exports, valued at \$10.5 billion. The electronics industry is now uncertain, however, about its future in Hong Kong.

But the future for Hong Kong's second largest industry is now uncertain. For one, the industry is facing new competition from the mainland and other Asian countries.

## TechnologyComputers

### When Computers Become Scapegoats

By T.R. Reid and Brit Hume

**W**ASHINGTON — Wouldn't you like to blame a computer? Even before the "Black Monday" instant analysis was rounding up suspects to blame for the 508-point drop, the biggest one-day crash in the stock market.

Not surprisingly, one of the chief culprits was that all-purpose electronic scapegoat, the computer. The crash was the result of "computerized panic," the Wall Street Journal said. The president of the Pacific Stock Exchange blamed the market's disastrous day on "inhuman machines."

It is true that major financial institutions have been using computers to assist them in complex market strategies known as "programmed trading" or "computer-assisted trading." And it is not only the Wall Street giants who use computers to play the markets; all sorts of stock-market programs and information banks are available for investors equipped with nothing more than a personal computer.

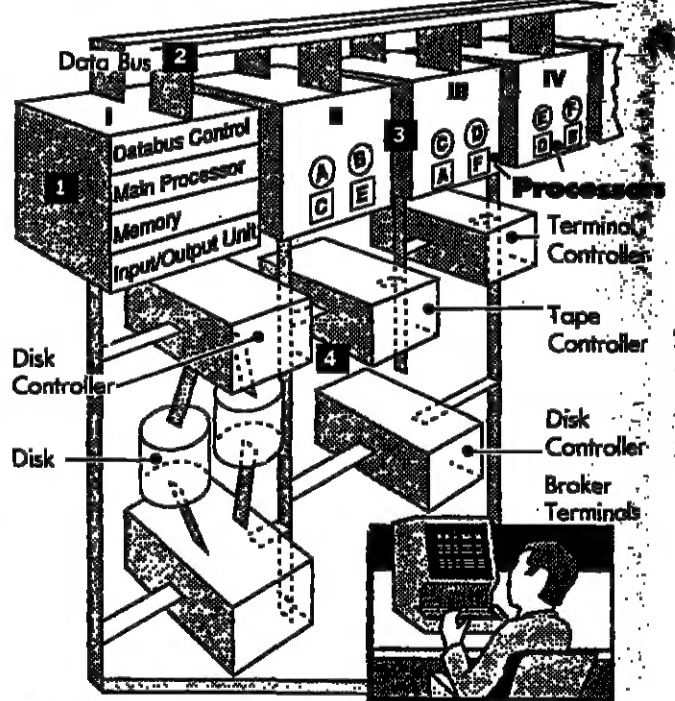
But the suggestion that comput-

ers caused, or even contributed to, the crash reflects a fundamental misunderstanding of the role of computers in our modern world.

The computer is a tool, on a par with the pencil, screwdriver or dishwasher. It can do only what humans make it do. It can enhance human feats and foibles, but does not cause them. To say that the computer caused the Wall Street crash is akin to saying the screwdriver caused the United States to enter World War II, because screwdrivers were used to build bombers, and without bombers there would have been no Pearl Harbor raid, and so on ad absurdum.

Before politicians and regulators go on a witch hunt to slay the beast called "computerized trading," it might be useful for them to learn what the term means. It refers to Wall Street applications for two familiar features of the computer revolution: high-speed electronic communication from one computer to another and high-speed number crunching. The big financial institutions do this on big machines, IBM 3850 mid-size computers or larger. They receive constant reports from different securities markets and constantly compare prices, looking for the best time and place to buy or sell stocks.

The computers can be programmed to ring bells or flash lights signaling the optimum time to sell a certain contract on a certain exchange. But these "inhuman machines" do not decide when to buy or sell, any more than



### Redundancy Helps Computers At Stock Exchanges Stay On Line

1 Processors each have their own memory and software. A fault in 1 doesn't stop, or any other. 2 Two data buses connect each processor to the network. 3 Processors store and update work of neighbors. Thus, processor 1 maintains record of work by 11 on deal C and IV on deal E while working on A and B. 4 Duplicated peripherals, such as disk files and terminal controllers, are each linked to more than one processor.

an alarm clock decides when you should wake up. The clock and computer ring only because some person has programmed them to under given circumstances.

Not many individual investors find it worthwhile to spend the time and money to set up the same intricate programmed-trading functions. But hundreds of thousands of personal-computer owners use their machines to track and analyze market data. The opportunities available, even on simple home computers, are stunning.

Lotus, the big Cambridge, Massachusetts, firm that publishes the world's most popular program, 1-2-3, offers a long list of investor-support products. For the trader who has to know what is going on in the market every second, there is Lotus Signal. Signal is part hardware — an FM receiver that hooks into the modem port of any MS-DOS computer — and part software — a program that pulls market quotes out of that receiver and can manipulate the numbers.

© Washington Post Writers Group

### PC Stocking Stuffers for Christmas

**C**HISTMAS in Paris? Armchair travelers need go no farther than their home computers with "Ticket to Paris" (for PC, Apple II and Commodore 64, from Blue Lion Software, Box 650, Belmont, Massachusetts 02178, 617-876-2500).

The player strolls around Paris, visiting landmarks (a graphics card is required) and talking to strangers who ask practical and historical questions, such as how to say certain common phrases in French, or the names of landmarks.

By exploring the city, the player also discovers hours of banks and museums, specialties of well-known restaurants and other handy knowledge. The game can be played in French or English, and includes an on-screen dictionary.

Blue Lion also offers "Ticket to London" and "Ticket to Spain." If the destination is not the attraction, try piloting a PC with Chuck Yeager's Advanced Flight Simulator program. Unlike tamer flight simulation programs, this one turns a PC into a cockpit to

teach advanced maneuvers and stunts (for IBMs or compatibles from Electronic Arts, 1820 Gateway Drive, San Mateo, California 94404; 415-571-7171).

The characteristics of 14 planes are simulated, from the Sopwith Camel through the rocket plane and experimental aircraft. Mr. Yeager made his precarious living in

This is serious flying. A 46-page manual explains the functions of ailerons, elevators, flaps and much else. (NYT)

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Technology

# World's Top Research Nations Plan to Design Fusion Reactor

By Robin Herman

PARIS — The four world heavyweights in fusion power research — the Soviet Union, the United States, the European Community and Japan — have agreed to design together what would be the world's first self-sustaining fusion reactor.

The project, called the International Thermonuclear Experimental Reactor, or ITER, would be the forerunner of an actual demonstration power plant and would prove the engineering feasibility of fusion as an electric power source.

ITER is expected to take three years to plan. The design work will cost about \$170 million, to be shared equally among the participants. When that phase is completed, by 1991, the four partners would decide whether to plunge ahead and build the machine, in unison or separately, at a projected cost of \$4 billion.

There's a gleam in everyone's eye and a hope that after three years the political climate will be warm enough to build it, said Manfred Leiser, head of the physics unit of the International Atomic Energy Agency, which presided over the four-way agreement.

The design team will be based at the Max Planck Institute of Physics at Garching near Munich. The countries have agreed that the basic form of the machine will be a tokamak, a kind of magnetic ring first proposed in 1951 by Nobel prizewinner Andrei D. Sakharov. This design has been adopted by the world over and has been the most successful fusion research machine to date.

A fusion reactor would extract energy from the nuclei of light atoms by forcing them together under conditions of incredible heat — about 100 million degrees

centigrade — or 10 times hotter than the center of the sun. Electromagnetic forces would contain the speeding particles. Fusion is something of a utopian energy idea because its fuel is hydrogen, which can be extracted from seawater, a virtually endless fuel supply.

The cooperative agreement on ITER was reached in October in Vienna and is expected to be ratified without problem by the governments involved. Among the representatives was Yegor P. Velikhov, science adviser to Mikhail S. Gorbachev and a longtime proponent of international collaboration in this very expensive branch of physics.

Researchers in the United States and the Soviet Union began secret fusion research in the early 1950s with the hope of building a fusion reactor in five to 10 years. But containing the hot cloud of particles, known as a plasma, became an insurmountable problem. Hot temperature alone is not enough for fusion to occur; the particles also must be held at a sufficient density and for a long enough time. Getting all three conditions at once has been the scientists' bane.

Peaceful fusion research, as opposed to work on fusion bombs, was declassified worldwide in 1958. Since that time, the Soviet Union and the Western powers have shared information on many projects, including Mr. Sakharov's ingenious design, but full-scale collaboration on building a machine has never been attempted. As fusion research has needed bigger and more costly machines, however, talk of international collaboration has increased.

The ITER plan specifically excludes anything more than a conceptual design sufficient for policy makers to decide whether to go ahead. The United States was adamant

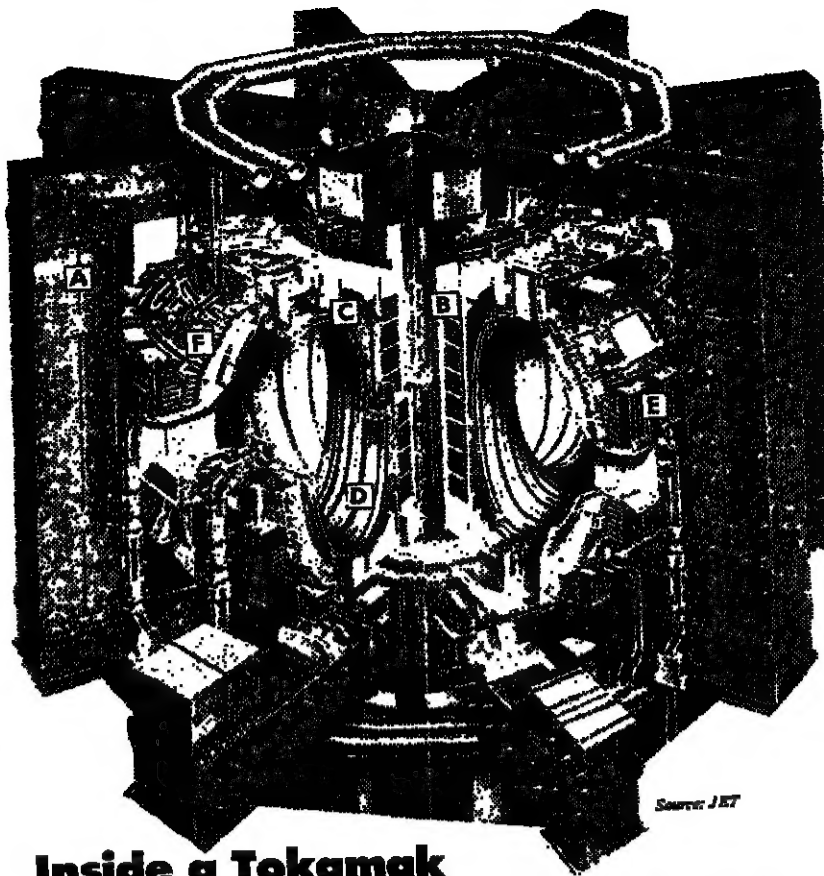
that the agreement would not commit any of the partners to actually building the machine. While the U.S. Department of Energy has been encouraging international collaboration as a way of shoring up declining fusion research funds, the Department of Defense has been nervous about possible technology leaks to the Soviet Union.

The EC's present fusion research machine, the Joint European Torus outside of Oxford, England, is the world's largest and arguably the most successful. It has come the closest to combined fusion conditions of temperature, density and time. Its goal is to produce a self-sustaining, power-producing reaction by the early 1990s.

The United States' flagship is the Tokamak Fusion Test Reactor in Princeton, New Jersey, which is an experimental machine, not an actual reactor. It has produced plasmas of 300 million degrees centigrade but at a density that would not be sufficient for making useful amounts of fusion power. The Japanese have an experimental machine called JT-60 in Naka-machi, north of Tokyo. It has demonstrated technical success in some of the physics of controlling plasmas but was not built to reach power-producing conditions.

The EC and Japan already have independently started their own "next step" design plans similar to what ITER would be. The EC design work is scheduled to be finished in 1988, but the high cost of actually building an engineering feasibility machine has made international collaboration more attractive as each year passes.

At the same time, both Europe and Japan appear more prepared than the other two partners to build a machine on their own if the ITER project falls through. The United States, by contrast, does not have a "next step" machine in the planning stages.



Inside a Tokamak

A cross-section of the Joint European Torus, the most powerful tokamak yet, reveals the workings of current fusion experiments. A iron transformer core connects primary current to plasma through B winding circuit coils; C toroidal field coils produce magnetic field that positions plasma; D vacuum vessel holds plasma; E outer poloidal field coils; F mechanical structure.

The Soviet Union has planned a different kind of machine that would be a fusion-fission hybrid breeding plutonium as well as producing power.

The ITER machine's design specifics will most closely resemble those of the EC's

successor to the Joint European Torus called the Next European Torus, or NET.

ROBIN HERMAN, a journalist based in Paris, is working on a book about fusion.

# Oxford Stores The Language In a Gigabyte

By Francis X. Clines

OXFORD, England — Gigabyte is the latest word at the Oxford English Dictionary, a measure of the 1 billion bytes needed for what will be a major event in the history of both computerization and lexicography: the transference and updating of the entire 16-volume OED onto three compact disks.

Here, in a humble old stone building along one of the university roads, workers are freeing the OED giant — the largest and most historically authoritative dictionary of the language — for a romp across the fluorescent fields of the modern computer.

The task is so mammoth that to put the same work of 22,000 pages and 500,000 definitions and usages onto conventional computer floppy disks would require more than 3,000; compact disks are far roomier.

The first two disks containing the basic 12-volume dictionary, minus its four-volume supplement, were launched last week, and Oxford University Press expects wide subscription from the world's libraries. It may appeal even more to the computerized layman eager to put aside the magnifying glass that is the proud tool of the current owner of the printed OED and turn to the keyboard for a trip through the language.

The multiple search powers of software, for example, would permit someone to track a particular German-rooted word and then tangentially inquire into how many such German words came into the language in a given century, or two or three. Or a reader checking on a gastronomic word could impulsively inquire into all the words involving cookery that have been traced to late 15th-century French.

One beauty of the OED is that no entry is ever discarded, only listed as obsolete with change. Another is that each entry has the earliest possible printed reference from history.

"It will be very exciting, opening up more doors, more ways of reference," said John A. Simpson, the co-editor and chief wordsmith at OED. He appreciates the instant retrieval and 40 different typefaces at hand with the new software, but he basically gets through each day by jotting down words he hears into a crumpled pocket pad: a usage for "mimosa," the drink of champagne and orange juice, and the birth of "blik," a notion referring to a slant or perception.

The computer dictionary has main headings for 300,000 words plus an additional 200,000 subsidiary usages — an increase of 25 percent over the original OED. But by the Oxford Press's patient plan, this is only a stepping-stone toward producing a totally revised dictionary.

The initial computer disks will result in a new printed edition of the OED, too, in 1989, but the main bonus of the conversion to the computer means that the dictionary can be fluidly updated as the new century arrives.

Oedipus is the acronym for the five-year, \$13-million entry into the computer age, the last four letters referring to Integration, Proofing and Updating System. Workers call it Oedipus Lex.

© The New York Times

# Hong Kong Electronics Makers Map Survival Strategy

By Gary Adelman

HONG KONG — As elsewhere in Asia, the electronics industry in Hong Kong has grown rapidly in recent years, becoming an essential ingredient in the territory's overall mix of exports. Last year, electronics manufacturers accounted for almost 22 percent of Hong Kong's overseas sales, which totaled \$20 billion.

But the future for Hong Kong's second-largest industry is now uncertain, forcing some entrepreneurs to adopt new strategies to be competitive.

Unlike the territory's garment and textile

producers, who have long accounted for about 40 percent of exports, electronics manufacturers now appear trapped between the giants of Asia — South Korea and Taiwan — and the would-be giants — Malaysia, Thailand and others.

Tight-fisted business traditions and official laissez-faire are expected to limit participation in semiconductors, the cutting edge of worldwide electronics, because production is expensive and depends on tax breaks and incentives the government will not grant, industry officials say.

Even if Hong Kong were to begin exporting semiconductors tomorrow, it would probably be locked out of markets that could use them. The markets are in key

electronics centers like Japan and South Korea, which make the same items and are protective of their home industries, businessmen said.

Also unsettling is the prediction that a continuous flow of the old Hong Kong standby, cheap items such as "junk" radios that can be sold in large volumes, will be killed by high labor costs, with the business going to lower-cost producers in China, Indonesia and Thailand.

Electronics entrepreneurs in Hong Kong, known for their flexibility, have set to carving out a new role for themselves to remain in business.

Victor Lo, managing director of Gold Park Industries (Holdings) Ltd., and chair-

man of an industry advisory committee to government, said, "China will take 10 to 30 years to develop the skills Hong Kong has in product development, production management, quality assurance, financing, sales and marketing."

His strategy is to move production of simpler items to China while managing factory production there from Hong Kong.

He would keep production of upscale items in the colony and encourage the mainland to develop a components industry, so he can buy parts for new generations of batteries and car radios at a lower rate than he pays current suppliers.

In the high tech arena, international

semiconductor companies such as Motorola and Sprague of the United States plan major Hong Kong investments, picking up the local slack.

Motorola Semiconductors Hong Kong Ltd., an arm of the U.S. giant, will soon begin designing and assembling integrated circuits from silicon wafers, said Yung Shun Kui, Asia-Pacific planning and procurement manager.

The company's activities are presently limited to testing integrated circuits made at Motorola factories elsewhere.

GARY ADELMAN is the Hong Kong correspondent of McGraw-Hill World News.

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## Technology Issues

## New Radar Systems Can Peer Farther and Hide Their 'Signatures'

Continued from page 7

to "quiet" radars, which generate a rapid fire of beams transmitted in random sequence with constantly changing frequency. The goal here is to confuse enemy receivers with a signature that appears to be no more than random noise.

Other recent developments include: phased-array radar for the B-1B bomber and the Aegis cruiser that adds new dimensions to radar's dual use as a detector and an abettor in guiding weaponry; Doppler radar to distinguish moving targets from stationary ground clutter and, for civilian air transport, to detect hazardous wind shear; synthetic-aperture radar, using an-

Aegis cruiser, the navy's latest warship, as well as the B-1B bomber, the first operational aircraft to employ it. Because the system steers the beam electronically, it can be directed much faster than conventional radar. The B-1B's beam can be shifted in 150 millionths of a second (theoretically more than 6,600 times a second), compared with one- to two-second scans in mechanically steered systems.

The speed makes it possible to "interleave" various functions, such as mapping the ground, following terrain and delivering weapons. In effect, the phased array can simultaneously track many targets while it searches for new ones.

**P**HASED-arrays require large amounts of computing power to send precisely timed commands to the thousands of cells across the array and assess the returns. This is one reason why they are only recently being put on ships and large planes. But with the miniaturization of computers, proposals are being made to put the phased array on small fighter aircraft like the F-16.

To distinguish moving targets from stationary ground clutter and tell how fast objects are moving, the military employs Doppler radar. It is also of interest to radar specialists at the Federal Aviation Administration, who hope to install Doppler systems at selected airports to prevent accidents caused by wind shear.

Many people are familiar with the Doppler effect by hearing the changing pitch of a passing train's whistle. As the train approaches, its pitch rises to a higher frequency, then drops as it leaves. This same principle is used to relate the reflected microwave energy to the speed of the wind or other targets. The echo returns at an altered frequency proportional to the speed of moving objects in the wind such as dust or to changes in air density.

Unlike conventional radars, Doppler radars measure this frequency shift of the pulses bounced from objects. Some bugs remain to be worked out. One problem is that radar sensitive enough to measure humidity differentials picks up many extraneous signals that need to be suppressed. And such systems are expensive. The Terminal Doppler Weather Radar is estimated to cost about \$4.5 million per installation, and are expected to be installed starting in 1992.

Another development under way is the stationing of radar satellites in orbit. The incentive is great: Important parts of the Soviet arsenal, particularly in Eastern Europe, are often obscured by cloud cover. But radar can generate appropriate wavelengths not only to penetrate clouds but also to peer through foliage and even look beneath earth's surface meters deep to discover old river beds or buried mines.

The potential of more precise radar satellite surveillance has been demonstrated by such civilian projects as the Seasat and Shuttle Imaging Radar experiments, funded by the National Aeronautics and Space Administration. The key to each of these systems is the synthetic-aperture radar technique. This method takes advantage of a satellite's speed to make a small antenna work like one that is miles long.

While the transmitter sends signals, its antenna gathers echoes from points along the ground. A computer selectively combines these echoes, based on time intervals and the Dop-

When radar is called upon to do more chores, from navigation to directing missiles, slow scanning is exacerbated.

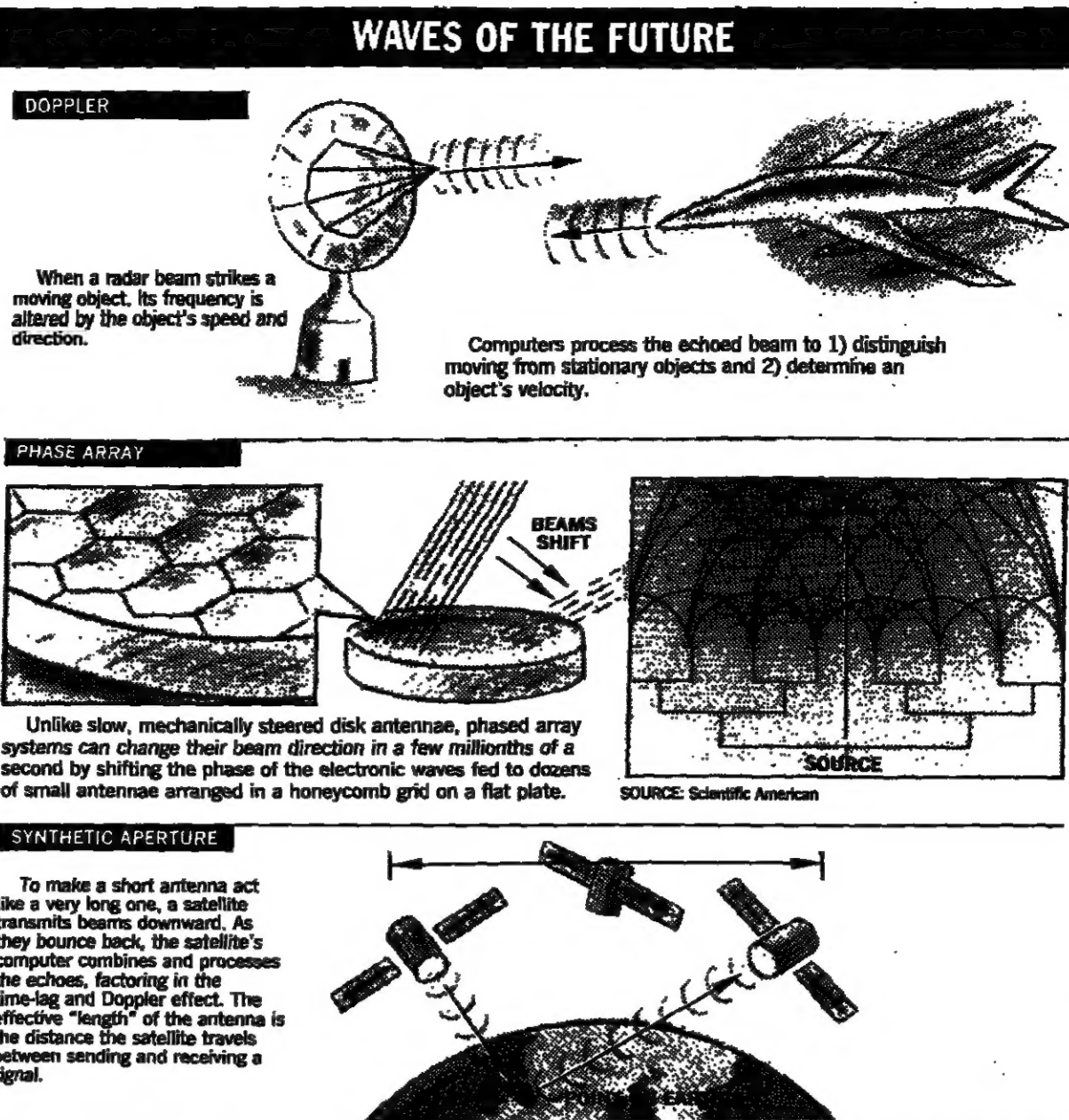
tenues miles long, in effect, to peer through foliage and several meters into the ground; and the use of smart computers to analyze radar signals.

The phased-array radar, instead of using a typical mechanically steered antenna, employs a fixed flat plate that inside looks like a huge honeycomb, with its concatenation of cells. Each small cell in the array usually has its own antenna. Adjacent antennas radiate energy at the same frequencies. These signals intermingle and reinforce each other to produce one large beam.

**T**HE unique characteristic of the phased array is its ability to electronically steer the beam in millionths of a second, even though the antenna face rests immobile. When all the individual antennas send signals timed precisely in phase, the beam will be directed straight ahead. But by electronically orchestrating small delays across the face of the array, the beam can be shifted at great angles.

Each delay causes a signal to lag a fraction of a wavelength behind the signal from a neighboring element. The delays increase successively in a motion like rows of dominoes collapsing. The result is a change in the beam in the direction of the increasing delay (or where the last row of dominoes would fall). By varying the magnitude of the time delay, the angle of the beam is controlled.

Phased-array radar is the linchpin of the



ler frequency shift of the signal relative to the moving spacecraft. The effective "length" of the synthetic antenna is equal to the distance that the satellite moves during the time a signal is sent and received.

In 1978, Seasat pioneered these high-resolution developments. From an orbit 800 kilometers high, it could resolve some objects of less than 10 meters. The length of its synthetic antenna was 15 kilometers. When its images were processed, the acuity of furrows from ship wakes astonished many people.

The Shuttle Imaging Radar, launched in 1984, took the Seasat approach a step further. Unlike Seasat, the shuttle's 11-by-2-meter antenna could be moved at different angles. This enabled three-dimensional views. A series of images of Mt. Shasta in California obtained from a spacecraft 225 kilometers high looked as if they had been taken by a person circling

the base of the mountain and pausing every 1,000 meters or so to snap a Polaroid.

There is much room for improvement, however. The use of multiple frequencies for radar imaging is a near-term possibility that Charles Elachi, project scientist of the Shuttle Imaging Radar at the Jet Propulsion Laboratory (JPL) in Pasadena, California, likens to going from "black and white to color." Each wavelength emitted would be reflected differently according to the composition of the material.

Both JPL and the Environmental Research Institute of Michigan in Ann Arbor have experimented with aircraft versions of such "color" radar for civilian and military uses.

Radars often collect data at such rates that humans cannot analyze the information fast enough. Studies in the 1960s and '70s by the Applied Physics Laboratory at Johns Hopkins University showed that radar operators often

missed targets even when they were detectable. The error rate, says a radar specialist, "caused a panic" and prompted navy work into computer-aided detection.

**M**ANY navy ships employ automatic detection systems to alert radar operators, who may be tracking numerous ships on their screens, to new targets. The problem with many of them is that they cannot distinguish spurious targets (reflections from birds, ocean, ground or clouds) from real ones. Consequently, radar operators often prefer to switch off the automatic-detection mode.

But even if fully operative, systems such as those used on the Starlark may have trouble spotting small, low-flying objects. Captain Brindley says that his radars were supposed to be able to detect Exocets "well beyond the visual horizon. They did not." And, he says, the

## How Radar Systems Work

**R**ADAR extends the range of the human eye. It can see through darkness, snow and cloud cover to locate objects and measure their distance. The principle is familiar. Dolphins and bats emit sound waves to gather information from their surroundings by sensing the echoes. Radar works the same way.

Electricity is converted into radio or microwave, which are beamed from an antenna at the speed of light. When the signal — usually a group of pulses — hits an object, the waves bounce back to the antenna, which has momentarily stopped transmitting so it can listen. Altered from bouncing off, say, an aircraft, the echoes are collected and processed by a receiver.

Each microsecond (millionth of a second) of round-trip travel corresponds to a distance of about 500 feet (152 meters). Additional information can be extracted by analyzing the alteration in each wave's shape.

Some radars do surveillance, scanning broad areas. Others are geared for targeting, where pencil-thin beams track a target continuously. And some, such as phased arrays, can search for new targets and track existing ones simultaneously.

Like the multiple frequencies of radio broadcasts, radar sensors can transmit on various channels.

High frequencies (and thus short wavelengths, down to a few millimeters) are often preferred because the components, particularly the antennas, can be made smaller and the beam can be focused better.

But transmissions in these frequencies degrade more rapidly in bad weather and the systems are often more vulnerable to countermeasures than systems using wavelengths of several meters.

Many military radars use variable frequencies — sometimes hopping across the spectrum bands randomly — to foil enemy countermeasures.

John A. Adam

## Technology Business

## Computer Nets Track Air Express Packages

By Paul Kemezis

**S**AN FRANCISCO — The overnight air express business, which exploded in the United States in the early 1980s and rapidly spread to Europe, is now undergoing a major technological revolution. Led by industry pioneer Federal Express, air express companies are starting to use sophisticated optical readers and computer networks to track packages as they move from pickup to delivery around the world.

This lets companies give customers up-to-the-minute information on where packages are and, for international deliveries, helps them ease customs bottlenecks. Such services are a key marketing advantage in the \$6-billion-a-year business, which is reaching a saturation point in the United States after a period of fast growth and faces new competition from cheap electronic facsimile technology.

According to Paul Losch, director of marketing for DHL in Redwood City, California, a leading player in the international air express market, "tracking has become one of the three essentials of this business along with reliability and coverage."

No one disputes that Memphis-based Federal Express, under its chairman, Frederick W. Smith, has the most impressive tracking technology of any express company. The push by rival companies to copy parts of the Fed Ex system proves it is doing something right.

Fed Ex started the revolution in 1984 by introducing its "SuperTracker." This handheld computer, designed by Fed Ex itself and manufactured by specialty electronics companies, reads bar codes from packages and key-punched information from the Fed Ex agent and relays data via optical signals to small data terminals.

The remote terminals are in real-time communication with the company's central data bank in Memphis. From Memphis, the data is available for telephone operators in 14 regional centers to answer the about 16,000 customer calls a day on the status of packages. Also, the tracking data can be called up on 22,000 terminals at Fed Ex stations.

Fed Ex first installed the SuperTrackers at pickup and delivery stations and at its domestic sorting hub in Memphis, which handles up to 800,000 packages each night. It is now completing a program to put a SuperTracker in the hands of all of its 44,000 couriers in the United States. Also, each of its 15,000 delivery vans is being equipped with a mobile radar terminal that can transmit all data punched into the SuperTracker via relays at the local Fed Ex offices to the Memphis data bank. In all, by early 1988, Fed Ex plans to have

each package logged into the network seven times as it moves from the sender to the receiver.

The package-tracking function is one part of a Fed Ex system called COSMOS (Customer Operations Service Master On-Line System). Using COSMOS, Fed Ex operators can also flash on computer screens in the vans information on just-processed requests for pickup, giving Fed Ex couriers an advantage in catering to customer needs. COSMOS also cuts routing mistakes, allowing Fed Ex to stick to its guaranteed overnight delivery deadline of 10:30 A.M. in most urban areas, and even informs couriers to refuse pickups if customers have bad debt records.

Other express companies respect the Fed Ex technology achievement but some say it may be overkill. United Parcel Service, fast becoming Fed Ex's main rival in the United States, has a less powerful tracking system that logs when express packages move in and out of 1,300 local stations but not at customer premises.

Ken Stern, a UPS spokesman, said, "We don't think Fed Ex has that much of a market advantage. Our customers basically want to know if a package has arrived, not where it is along the route."

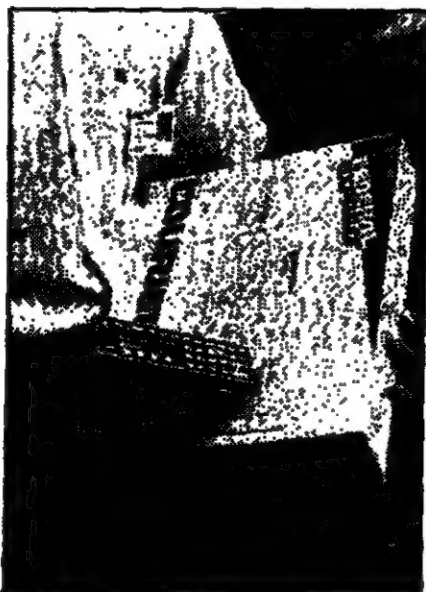
**D**ESPITE the tough talk on tracking, UPS is clearly hindered by the lack of on-demand pickup and is believed to be close to adopting technology like that of Fed Ex to give it drivers the same flexibility. Another major player, Airborne Freight Co., does have the on-demand capability, but does not extend coverage outside urban areas, reducing its technology needs.

DHL's Mr. Losch, with a mainly international business, agrees with UPS that pinpoint tracking is not absolutely necessary. He said, "Usually, when a package is being delivered in Paris, the person who sent it from San Francisco is asleep."

DHL maintains data centers in Washington, D.C., Brussels, Bahrain, Hong Kong and updates package departures and arrivals every 20 minutes throughout the system based on data from hand-held computer units similar to the Fed Ex equipment. It believes this sort of tracking is sufficient to meet customer needs.

Mr. Losch says, however, that in the United States, DHL is studying system upgrades, including possible pickup and delivery tracking at customer premises. According to Mr. Losch, a strong position in the U.S. market, which is estimated to be four times larger than the current overseas market, is essential for any successful international operation.

While Fed Ex dominates the U.S. market



The Fed Ex SuperTracker.

with close to 40 percent of total overnight business, compared with 14 percent for closest rival UPS, in overseas delivery the competition is much more even. UPS has a major advantage in Europe with its long-standing German operation based in Cologne, and DHL, with delivery to almost every country in the world, is the premier international agent.

Since 1983, all major players have made arrangements with local European companies to rapidly expand services. In Britain, for example, Fed Ex purchased Lex Wilkinson Ltd. and DHL bought the air unit of Securitor PLC.

Because of the restrictive European data communications environment and its smaller size there, Fed Ex has been slower to introduce its U.S.-style tracking system, although it promises eventually to give a near equivalent of U.S. service. This means all major companies are at about the same stage of technology development.

But a key competitive problem in the international express business is customs, since it is often the main obstacle to providing prompt service. All major express companies say they are now applying their package-tracking systems to speed items through customs points.

Using data gathered at the pickup stage, the companies supply customs agents with computerized lists of items in advance. The agents can preselect what they want to inspect, allowing the rest to pass faster or even signal ahead if documents are out of order. "If we are told six hours ahead that some customs information is missing, we can correct the problem while the package is still in the air," Mr. Stern says.

PAUL KEMEZIS writes about telecommunications for McGraw Hill in San Francisco.

## Race Is on for 21st-Century TV

By Jacques Nèher

**P**ARIS — In the race to develop cinema-quality television for the 1990s, European and Japanese companies are vying to set a new worldwide standard they believe will assure their technology's dominance in the marketplace.

Already propelled by a major thrust under Eureka, Europe's research and development program, the major European companies involved got an extra boost in late November, when the United Nations broadcast standards organization, the CCIR, gave its first recognition to the European technology.

The technology is known as HDTV, for high-definition television. Both sides are at work on prototype equipment. HD-MAC in Europe and MUSE in Japan, to demonstrate to the CCIR, which is expected to decide the standards issue by 1990. Full implementation is not expected before 1995.

Although all sides say a single worldwide standard would be ideal, they are not counting on it. More likely, they say, conflicting economic and political interests will force the broadcast industry to work with two or even three technological standards — one for Japan, a second for Europe and possibly a third for the United States.

At stake for consumers is the possibility of watching programs generated anywhere in the world on larger, wide-screen sets, with cinema-quality picture and compact disc-quality sound.

"We've known the Stone Age, we've known the Bronze Age, and we now enter the silicon age," Cornelis J. van der Klugt, chairman of Europe's consumer electronics giant, NV Philips of the Netherlands, said recently in Paris. "HDTV is a milestone in the way we go into the silicon age."

For Mr. van der Klugt, the European idea for HDTV implies "a very good picture, much better than we have today. There will be 24 hours of information around the world. Press a button and you can see a golf game in the United States or a sumo fight in Tokyo or a concert in Glasgow, or in Berlin or in Paris."

Such programming possibilities, he argues, will be more easily achievable if the European concept for HDTV is chosen as the world's standard.

Even more important for companies like Philips and France's Thomson SA is the chance to roll back Japan's dominance in the world consumer electronics industry. By setting the standard, the Europeans would be able to earn royalties off technology that will give birth to an entirely new product category.

At issue, ultimately, is the replacement of the world's 600 million television sets, plus a good chunk of its TV studio and broadcast equipment.

Although the European and Japanese HDTV concepts use entirely different tech-

nologies, both retain the same objective: to increase picture quality by breaking it into more horizontal "lines" of pixels, or image elements. In the same way that a magazine photograph is sharper than a newspaper photo because coated paper can sustain more lines of ink dots in a given space than newsprint without blurring, HDTV compresses more light lines on the screen, producing a sharper image with truer color and less flicker.

The Japanese MUSE system, developed by NHK, the Japanese Broadcasting Corp., would produce an image of 1,125 lines, versus the current Japanese/U.S. TV standard of 525 lines.

The European MAC system would double the current European PAL/SECAM standard of 625 lines to 1,250 lines for European broadcasters and would double the Japanese/U.S. screen from 525 lines to 1,050 lines.

From the viewer's standpoint, all would

At issue is the replacement of the world's 600 million TV sets.

yield images of near-cinema quality, according to Jean Cailliot, president of Thomson International, a division of Thomson SA. Thomson and Philips are spearheading development of the European HDTV technology along with more than two dozen other companies and institutions within the Eureka program.

The main difference, and the central issue, is that the Japanese standard was created to operate at 60 cycles, the electrical standard in Japan and the United States.

Because Europe and Africa run on 50 cycles, meaning that the electrical current changes direction 50 times a second, the Japanese HDTV standard would be incompatible with about 60 percent of the world's TV market, the Europeans point out. Conversion from 60 to 50 cycles, said Mr. Cailliot, would be very expensive for the consumer and would yield an inferior image.

A more fundamental criticism lodged by the Europeans is that the Japanese concept would force production studios, broadcasters and consumers throughout the world to replace their current equipment in order to make, send and receive the new high-definition television images.

"We call it the '600-million-TV-sets-in-the-

garbage" option," Mr. Cailliot said of the Japanese HDTV concept.

Mr. Cailliot said the European technology could be phased in gradually while it remained compatible with present-day equipment. Mr. Cailliot compares it with the phase-in of color TV broadcasting over the past few decades, in that the color signal could still produce a monochrome image for those who owned black and white sets, while a monochrome signal could be received by those who had bought color sets.

Aside from doubling the number of lines, the HD-MAC technology proposes to sharpen the TV image by radically changing the way the signal is generated.

In Japan's MUSE system, as in present-day television, the moving image would be formed by interlacing, whereby a frame of a moving subject is broken into two fields, or image samples. The fields are projected on the screen, one following the other at 1/50th of a second, but on alternate lines. The difference between these image fields produces the illusion of motion.

Thus, the Japanese system would boost the amount of lines, from 525 to 1,125, but still use only half of them for each image field.

In contrast, HD-MAC, the French acronym for Multiplexed Analog Components, produces the TV picture at the studio level using a sequential or progressive frame technique. Here, the subject is visually sampled by the camera every 1/50th of a second, with each frame electronically analyzed and separated into its component lights and colors on a screen of 1,250 lines. Each frame follows the one before it, utilizing all the lines available.

The HD-MAC system's progressive scanning only operates at the studio level, while the signals broadcast and received are interlaced.

Robert Boyer, manager of Thomson's image research lab at Reims, France, said progressive scanning at the studio level would produce truer motion effects as "each motion instant is separate, just like a film." Spatial effects, such as zoom and rotation, would also be greatly enhanced, he said.

One drawback to the technology, the need for a wider broadcasting bandwidth in order to transmit the additional image data, is currently being tackled and Mr. Boyer is confident it can be overcome by filtering techniques that will not affect image quality.

Nevertheless, a lot of work remains to be done before 1990, including the development of a color camera utilizing the technology. A black and white camera prototype was demonstrated this summer.

"We've shown that our concept for HDTV is feasible," says a Thomson spokesman. "Now we have to show it's realizable."

JACQUES NÈHER, a journalist based in Paris, is a regular contributor to the International Herald Tribune.

JPL 10150



## Technology

### NOTEBOOK

#### 'Paper' Battery

**TOKYO**—Two Japanese companies have succeeded in producing electrolyte, the chemical mixture inside batteries, in paper form, allowing the manufacture of batteries less than 0.1 millimeter (0.004 inches) thick.

Matsushita Electric Industrial Co. says batteries made from the sheets of rechargeable dry electrolyte could be used to power "small" credit cards with built-in computer chips, smaller heart pacemakers and miniature portable radios and tape recorders.

Matsushita, which jointly developed the sheet electrolyte with Japan Synthetic Rubber Co., still is studying what kind of metal electrodes will work best with it. As a result, the company says batteries with the sheets will not be available commercially for at least one to two years. (AP)

#### Speedier Chip

**SAN FRANCISCO**—The Pentagon is pushing suppliers toward gallium arsenide integrated circuits, combining many components into a single chip that can be reliably mass-produced. Such circuits are known as monolithic microwave integrated circuits, or MMICs.

"The analogy is the same as where silicon was 20 to 25 years ago—the government is underwriting all the development," said Donald A. Bond, president of Pacific Monolithics, of Sunnyvale, Calif. The company makes microwave gallium arsenide chips.

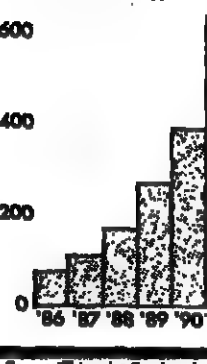
Gallium arsenide potentially offers far greater speed with greater resistance to heat and radiation than the silicon normally used to make electronic circuits, but the cost and difficulty of working with it have scared most chip users away.

The military hopes that gallium arsenide integrated circuits will allow sophisticated radar systems—now the size of buildings—to be made small enough to fit into planes. A tiny radar-on-a-chip could also be used in shells to help them home in on their targets.

The Pentagon program could have civilian spinoffs, according to Pacific Monolithics, which has built the first mass-market MMIC, a chip for use in satellite television receivers. The chips could be used in collision-avoidance systems for cars, or in satellite communications systems that will allow a car or a truck to determine its location. (NYT)

#### Bright Prospects

Potential military markets for gallium arsenide in millions of dollars.



Source: Triquet Semiconductor Inc.



Scientists monitor microbiology outside tomb to measure impact of visitors.



Conservator takes color readings on wall paintings to detect changes.

## Man, Machines Restore Measure of Life

Continued from page 7

Mr. Monreal had worked on Egyptian archaeological sites in the 1960s and had been involved in the reorganization of the Egyptian Museum in the 1970s. No one was in a better position to respond to the call for help from Mr. Kadry.

The two men got the Nefertari conservation project started in September 1986, less than 15 months after Mr. Monreal's appointment, something of a speed record for this type of undertaking.

In the meantime, what is to this date the most advanced conservation laboratory had been set up. It was running under the scientific direction of Frank Preusser, one of the top men in the field of scientific conservation who had been lured away from the Dörner Institute in Munich.

Mr. Preusser has a keen visual understanding of art and does not allow technology to run out of bounds against common sense. He established a sound relationship with Italy's leading fresco restorer, Paolo Mora of Rome, who had been called in to wield the tools and personally control every physical treatment of the painted surface.

What Mr. Preusser set out to do, as it appears in retrospect, was to give Mr. Mora assurances that whatever the restorer would be doing would be compatible with the environment of the tomb and the physical characteristics of the paintings. This meant providing the restorers with scientific data on an unprecedented level of sophistication.

Directed by Mr. Preusser, a team including Egyptian and Western scientists analyzed the materials used to execute the wall paintings, which include the pigments, the plaster coating and the binding medium. For pigments, the team used X-ray diffraction. The diffractometer made available by the Getty Conservation Institute is a technical development that is barely five or six years old.

In the past, if scientists wanted to analyze minute, i.e. sub-milligram fragments, they would resort to diffraction cameras recording the results on film. The position-sensitive detector used in the tomb made it possible to abandon the old manual system of data acquisition and evaluation in favor of a computerized system. It allowed incomparably higher speed and comprehensive coverage. The composition of the plaster, of the pigments and the nature of the salt that is coming out of the rock and is the main cause of deterioration were studied as never before on any site.

The attention of the Getty team was focused particularly on the salt. The highly sophisticated equipment of the Conservation Institute at Marina del Rey in California includes an electron-beam microprobe—a scanning electron microscope using electrons instead of visible



Inside the tomb's funerary chamber, workers prepare surfaces for the next phase of restoration.

light. While the basic device has been in use for 15 years, recent progress has given it a higher resolution that allows magnification up to 100,000 times.

Looking into the pores of the plaster for the salt crystals, varying in size from a hundredth to a tenth of a millimeter, that they expected to see, the technicians found that there were none. The only crystals were normal clay minerals.

This was a major discovery. Knowing that there was no salt in the plaster itself meant that the restorers would be able to consolidate it directly by impregnating it with a consolidating agent, an area in which the Getty Conservation Institute has probably done the most advanced research work anywhere.

The other advanced technique used by the institute in the tomb of Nefertari involved color-measuring. Mr. Preusser says the equipment came on the market only three or four years ago, and while the idea is relatively old, the machinery is revolutionary.

Portable and computerized, the apparatus allowed the team to do up to 1,500 color measurements in six working days, including the photographic documentation and the data reduction. With traditional equipment, this would have taken one to two months. Staff being scarce, speed was essential.

At a conference held in Cairo from Nov. 17 to 20, as a conclusion to the first phase of the Nefertari project, scientists compared notes in their respective areas. (The first phase dealt with less than 10 percent of the painted surface; a second phase will involve the conservation of the entire tomb.)

**T**HE investigation had started on the assumption that the salt coming out of the rock, the major cause of deterioration, was the result of periodic rainfalls. These were thought to have taken place at very wide intervals, perhaps 100 years or more.

"When we studied the salt under the electron-beam microprobe, I expected, on the basis of that hypothesis, to see a layered structure reflecting periods of growth of the salt formations," Mr. Preusser said. "We actually found very homogeneous crystals, pointing to more or less continuous growth. There is no evidence that water ever penetrated the rock."

This is a vital indication that the restorers will be in no danger of seeing their work jeopardized in the event of a catastrophic rainfall in 10, 20 or 50 years.

The biological survey undertaken by a Japanese biologist, Hideo Arai, revealed "a surprisingly dry environment." He be-

lieves that the Egyptian blue of the tomb ceiling has turned black in some areas, possibly as a result of micro-organisms. Minute fungi from the Nefertari tomb have been grown in a Tokyo laboratory to further verify the hypothesis.

Having collected these data from September 1986 to April 1987, the Getty Conservation Institute started the treatment phase at once. To consolidate fragments of plaster in imminent danger of falling off as a result of vibrations caused by tourist traffic, a light concentration of an acrylic consolidant has been applied on the back of each flaking fragment.

The larger pieces have been fixed with thin strips of Japanese paper, 10 by 2 centimeters (3.8 by .78 inches), which make some of the walls look as if they had been covered with Band-Aids, a harmless process light years ahead of the thick gauze applied with organic glue over the paintings in the late 1960s. Mr. Mora's team has now succeeded in removing the gauze with no loss at all.

Mr. Monreal estimates that in two years the restoration work should be completed. Thus, at a cost that is minimal compared with the overall Paul Getty Trust budget, one of the most remarkable artistic undertakings since World War II is being carried out.

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ARTS / LEISURE

# Chaumet's New Looks

PARIS—Things are brewing on the Place Vendôme. Since the financial collapse last June of the Chaumet jewelry firm (founded in 1780), the company has been bought by a Bahrain-based company, Investcorp, the Arabian Investment Banking Corp., an international investment bank whose total assets in 1986 were \$418.5 million. Investcorp paid between \$13 mil-

HEBE DORSEY

lion and \$14.7 million for Chaumet, an august house that moved from Faubourg Saint Honoré to Place Vendôme in 1802.

On Nov. 11, Investcorp hired Jean Bergeron away from the Comité Colbert and appointed him president of Chaumet and its parent company, Bréguet. For the last five years, Bergeron was the Comité Colbert director and its most active member when it came to promoting French luxury. The Comité Colbert groups 70 French luxury businesses, including jewelers, perfume and fashion houses, and the Ritz and Maxim's. Bergeron turned the Comité from a club of bourgeois into an active organization that has held successful shows in Tokyo and Munich and is planning to expand in the United States with an exhibition at Washington's Smithsonian Institution.

Bergeron's new job will be a tough one. Chaumet, which had as its clients the French and international aristocracy since Napoleon, is definitely going through a tarnished period. But this does not seem to frighten either the investors or Bergeron.

Elias N. Hallack, Investcorp's executive director, said: "If we didn't believe in Chaumet, we wouldn't have bought it. We're confident about the future. We have to keep the traditional lines



Dionysos: One of Chaumet's "Nouveaux Regards," the terra cotta head is Greek, fourth to second century B.C., the garland and neck ornament are in modern gold and diamonds.

been expelled from the Comité Colbert. Instead, he had the best-decorated store on the square, covered in festive Christmas ivy and red ribbons. He also entertained about 2,400 guests "including old clients who were very happy to see us there," he said. Bergeron also organized a handsome display, called "Nouveaux Regards," of objects mixing precious materials with century-old antiques in the store's salon.

Bergeron was not keen to talk about Pierre and Jacques Chaumet, released Friday from preventive detention after reportedly being indicted in connection with Chaumet's collapse. He was looking ahead, and his attitude was upbeat. "My first job will be to give work to the workrooms, whose 25 employees have been a bit depressed lately. We must be able to meet the demand, which is most acute during the Christmas season."

A media-oriented man, Bergeron has been giving extensive interviews to one and all "to take advantage of the surprise effect brought in by my appointment. We have to re-establish Chaumet's image, then enlarge the line of products so that they will be more accessible to a wider public."

"I'm taking over a new, clean, debt-free business," he added. "It's a formidable challenge but I hope to bring Chaumet back to its former splendor and into the Comité Colbert."

Fighting words, but they raise a bigger question than simply that of restoring the good name of a prestigious house. The takeover of Chaumet is but one in a whole line of small and medium-size French family businesses merging with international investment companies. The fear is that, in the process of corporate money's expansion and exploitation of a famous name, the products on which the fame of that name rests may suffer, and stan-



Jean Bergeron: A tough job.

dards of excellence be lost or downgraded.

Recently Hermes announced the creation of a new company in 50-50 partnership with the Japanese cosmetics firm Shiseido, to distribute Hermes perfume in Japan and to market new products in Southeast Asia. But any such products, said Hermes President Jean-Louis Dumas-Hermès, will be quality-controlled from Paris. The merger of Vuitton with Moët-Hennessy and the leadership of President Henry Racamier have transformed a small family concern into a flourishing

multinational, indeed the largest luxury business in the world, so far without any apparent loss of quality.

And Tiffany's, also partly owned by Investcorp, has regained some of its old lustre, lost during the period of Avon ownership, when it strayed too far into kitsch gimmickery. So, big money need not necessarily cheapen the small, elite firm's name; but there is always a danger, and it would be particularly tragic if Chaumet's financial recovery should be at the cost of its very special, historic cachet.

# New Rihm, Yun Works Highlight Berlin Fête

By James Helme Sutcliffe

BERLIN—The twin villages of Berlin and Koenig had long existed on opposite islands in the Spree River of Brandenburg's watery world when their existence was first fixed in a document dating from 1237. But 750 years is still worth celebrating and so—starting in April with the world premiere of a "Berlin" musical derived from E.T.A. Hoffmann's Schlenkerli figure—no less than 18 works commissioned for the occasion have had their first performances, supplemented by visits of opera companies from Kiev, Milan, Vienna, Munich, Hannover and Kassel, drama companies from France, Austria, Israel and Hungary and dance companies from New York and London.

One of the outstanding events was the world premiere of Wolfgang Rihm's opera "Oedipus." Commissioned by the West Berlin Deutsche Oper, "Oedipus" was unveiled in the glare of a live nationwide TV and radio broadcast, which did the powerful but intimate work no good.

Rihm pieced his own non-sequitur libretto together with fragments from Nietzsche, Heiner Müller and Sophocles' drama as translated by Holderlin, relying on the harsh ascribic sounds of his stringless orchestra—used "like a weapon or a scalpel"—alternating with quiet, floating vocalism, to convey the archetypal power of the myth. After an hour and a half of such battering on opening night Oct. 4, one listener shouted "unbearable" into the stunned silence that followed Oedipus's self-blinding and banishment. Then the Deutsche Oper left for Yokohama and Tokyo to perform three (triumphantly received) "Ring" cycles.

It was not certain that "Oedipus" had been heard to best advantage at the premiere, which had to accommodate the television cameras, and the performance on Dec. 6 reinforced that feeling. Marvelous details emerged in Götz Friedrich's staging, set in Andreas Reinhardt's modern, pyramid-like designs, revealing Rihm's "Oedipus" one of the most brilliant productions in West Berlin's repertoire.

Andreas Schmidt in the title role and Emily Golden as his wife-mother Jocasta created unforgettable stage figures, supported by William Fell, William Dooley, Lenus Carlson and William Murray as Creon, Tiresias, the Messenger and the Shepherd. Christof Perick conducted, aided by some stunning light effects which had to be left out earlier because the TV cameras could not register them. Is "Oedipus" a modern masterpiece? Performances scheduled for March 1988, with Berlin declared "cultural

city of the year," should make that clear.

The other of the two operas given world premieres, "The Tower," given the day after the 77th birthday of its German-born Israeli composer, Josef Tal, can conceivably be forgotten. Though Kassel's production—a birthday present to Berlin from the Hessian state ministry of culture—was first-rate—under its new Hungarian chief conductor, Adam Fischer—Tal could do nothing to turn the embarrassingly naive libretto by the late Hans Keller into viable musical theater.

Another of the five commissioned stage works was "Light-Bang," an "apocalyptic ballet" produced by the Deutsche Oper on Nov. 15 in non-designs by Achim Freyer, and with minimal music and choreography by Erhard Grosskopf and Lucinda Childs respectively.

The anniversary celebrations officially closed with the opening of the new 1,136-seat chamber music concert hall, a smaller version of the architecturally celebrated Philharmonie, on Oct. 28. Herbert von Karajan conducted the strings of the Berlin Philharmonic in Vivaldi's "The Seasons," with Anne-Sophie Mutter as soloist. Televised nationwide, the event was not without irony, for the building had overshot its budget by almost 100 percent and had to be closed for finishing touches until next March.

Although one choral work disappeared without a trace and another had to be postponed until 1988, several of the new orchestral compositions, with or without soloists, proved to be works of distinction: Aribert Reimann's "Apocalyptic Fragment" for the mezzo soprano

Doris Soffel (who had been his cassandra in "Troades"), Manfred Trojahn's celebration of silence with a large orchestra and huge percussion section in "Cinq Epigraphes" (the Cleveland Orchestra will premiere his Orchestral Variations this season), and the South Korean composer Isang Yun's Fifth Symphony, for the baritone Dietrich Fischer-Dieskau and the Berlin Philharmonic.

Yun, now a German citizen and professor of composition at the Berlin Musikhochschule, was abducted by his own country's secret police from Berlin in the mid-60s, imprisoned for two years and only released after a worldwide protest. Each of his five symphonies, a series he began composing in 1962, deals with a different problem of contemporary life as seen through the composer's eyes and his Taoist philosophy. Dedicated to the memory of the German-Jewish poetess Nelly Sachs, the Fifth Symphony uses material from 11 of her poems to create five movements.

Yun's dense textures, constantly undulating through apparently motionless clusters of sound using tone-centers rather than keys, shimmer with exotic instrumental effects that immediately identify the music as his. Trills, glissandi in strings and trombones, woodwind shakes, form the substance rather than decorative elements in his incandescent music. Fischer-Dieskau intoned the syllabic poetic settings with his customary authority. The 55-minute work, an important addition to the repertoire, was sensitively premiered by the conductor Hans Zender.

James Helme Sutcliffe is a Berlin-based critic and musician.

# Pick of Jazz and Pop Records for Christmas

By Mike Zwerin

HERE is one critic's holiday shopping list for jazz and pop records:

**IRAKERE, "Miss Negra" (Meridian):** The surprise of the year. An independent West German label records a Cuban band in Ludwigshafen. Shades of Dizzy Gillespie, Eddie Palmieri, Gato Barbieri, Cecil Taylor, Machito and (the Cuban composer) Leo Brouha. The title suite by Chucho Valdés is about the Yoruba religion in Cuba today and features the Stuttgart Symphony's roaring arrangement and Chicho's strutting arrangement and rapping piano, in his own place between Ellington and Oscar Peterson, on Dave Brubeck's "El Duke." And if you think this is good, wait until you hear Gonzalo Rubalcaba's neo-bop Afro-Cuban band.

**MARIANNE FAITHFULL, "Strange Weather" (Island):** The composer of "Sister Morphine" is alive and, if not exactly well, living from day to day in Boston. Swing-

ing London's prima survivor, the Diva of Despair, should be cheered up by her high-quality autobiographical collection of sad songs such as "Boulevard of Broken Dreams," "Yesterday" and "As Tears Go By." Faithfull's tough yet fragile voice is reminiscent of Lotta Lenya, Edith Piaf and sometimes Billie Holiday. It's a fine good morning heartache.

**WYNTON MARSALIS, "Standard Time" (CBS):** The late classical pianist Artur Schnabel advocated feeling over technique. "Safety last" was his motto, and he told his students that accuracy was a negative virtue "like not stealing silver spoons." Helped by an elastic, adventurous young rhythm section, the jazz trumpeter prodigy Marsalis takes standard repertoire ("Caravan") into astonishing places. He has begun to tame his prodigious once accuracy-first technique and you better look out before he steals all the silver.

**CHRIS REA, "Dancing With Strangers" (Magnet):** Mellow, foggy Celtic rock, serious without taking itself too seriously. This poetic British songwriter/singer is always on the edge of irony, if not cynicism. He is "choked on the sword of no return," buys a hat to protect himself from the fallout of "all them leaders, desperation in their eyes" and warns us we may "all go insane" because "it takes too long to explain the joys of Christmas."

**EDDY LOUÏSS, "Sang M&E" (Nocturne):** One of the first French jazzmen to be in demand by Americans (Stan Getz, Quincy Jones, Kenny Clarke), the organist LouÏss, now on his own road, has become a superb synthesist, a rare recognizable personality on electronic keyboards. The title, which means "mixed blood," is an accurate verbalization of this mélange of his Martinique background, quiet "New Age" textures and, above all, the blues.

**GEORGE HARRISON, "Cloud Nine" (Dark Horse/WEA):** Accompanied by, among others, Eric

Clapton, Elton John and Ringo Starr, the Third Beale is "helping us all to remember what we came here for." His long-awaited new album might sound a touch too familiar from time to time and too middle-of-the-road everywhere but it is tuneful and full of sweetness, light and positive thinking: "I'm not the wreck of the Hesperus, I feel more like the Wall of China... Oh yeah!"

**"JAZZ A TOUS LES ETAGES, VOL. 3" (French CBS):** A three-record box—free translation "Jazz for All Sizes"—collecting tracks from Louis Armstrong to Herbie Hancock by way of Cab Calloway, Glenn Miller, Gerry Mulligan, Count Basie, Sarah Vaughan, George Benson and more. The producer Henri Renaud serves as a worthy disc jockey by selecting the

most interesting and durable interpretations from a number of albums we may never have heard because we were either too young for or bored by the complete originals. Jazz for people who do not collect it.

**LINDA RONSTADT, "Canciones de mi Padre" (Asylum):** Heartfelt versions of huapangos, rancheros, corridos and other traditional Mexican songs that Ronstadt learned from her father, sung in Spanish with folkly traditional acoustic accompaniment.

**SONNY CLARK, "Cool Struts" (Blue Note):** The late bebop piano legend, Clark is the closest rival Bud Powell ever had in his own generation. This reissue was recorded on Jan. 5, 1958, with Jackie McLean, alto; Art Farmer, trumpet; Paul Chambers, bass, and Philly Joe Jones, drums, and will no doubt still be popping fingers 30 years from now.

**TERENCE TRENT D'ARBY, "Introducing The Hardline According to..." (CBS):** While Pat Cash, Henri Leconte and others were playing tournament tennis in South Africa, D'Arby canceled a concert in Vienna to protest Kurt Waldheim's presidency even though he assumed he'd be sued for it. Musically, he also goes further than expected. This 25-year-old Afro-American expatriate in London shakes up such influences as James Brown, Bob Marley, Otis Redding, Marvin Gaye, Sam Cooke, Rod Stewart, Prince and Stevie Wonder (yes, all of them) and comes out the other side of imitation into innovation.

# Frank Lloyd Wright Items Auctioned

New York Times Service

NEW YORK—Governor James R. Thompson of Illinois got a bargain of sorts this weekend by spending \$330,000—less than half of what he'd planned—to buy Frank Lloyd Wright furniture and architectural drawings at Christie's auction house in Manhattan.

He acquired the items for a state-owned restoration, the Dana-Thomas house in Springfield, Illinois. He had come to the auction with pledges of more than \$600,000 in private funds.

He sat next to the man everyone thought would be his major opponent—Thomas S. Monaghan, chairman of Domino's Pizza Inc. of Ann Arbor, Michigan, and owner of the Detroit Tigers baseball team. Monaghan is a top collector of Wright furniture who has paid record prices for many pieces, most of which are installed at his Center for the Study of Frank Lloyd Wright.

By the end of the session, the governor had bought five lots—a music stand, a leaded glass and bronze table lamp, and three architectural drawings, and Monaghan had acquired 23 of Wright's designs for \$431,640.

The singer-actress Barbra Streisand purchased two of the most expensive works in the auction by Wright—both were made for Illinois houses—through the New York dealer Michael Carey. She paid \$176,000 for an oak library table from the B. Harley Bradley house and \$77,000 for an oak console table from the Avery Cooley house of 1908.

The one item for which Monaghan paid more (\$10,450) than Christie's expected was an angular boxy pet house that Wright or a member of his staff made in 1954.

# Restored Temple Opens in Athens

The Associated Press

ATHENS—A 2,400-year-old temple on the Acropolis was reopened Sunday.

The \$23 million restoration of the Erechtheum, about 50 meters from the Parthenon, won praise from Culture Minister Melina Mercouri.

"Freely of its scaffolding, it shines with beauty. After so many years, Greeks and foreigners can now approach it," the minister said.

Most of the scaffolding came down in the spring, but the temple, dedicated to the goddess Athena, remained roped off while restorers were still at work.

Most of the temples on the Acropolis, including the Parthenon, are undergoing restoration after being damaged by time, looting, pollution and careless restoration.

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NYSE Most Active				
Vol.	High	Low	Last	Chg.
Schibler	2534	2534	2534	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1
Wentz	2130	2130	2130	+1

Market Sales				
NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume
NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume
NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume
NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume
NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume	NYSE 4 a.m. volume

NYSE Index				
Composite	High	Low	Close	Chg.
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2

Monday's NYSE Closing				
Composite	High	Low	Close	Chg.
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2

AMEX Diary				
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues

NASDAQ Index				
Composite	High	Low	Close	Chg.
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2
Composite	125.26	125.26	125.26	+1.2

AMEX Most Active				
Vol.	High	Low	Last	Chg.
Vol.	High	Low	Last	Chg.
Vol.	High	Low	Last	Chg.
Vol.	High	Low	Last	Chg.
Vol.	High	Low	Last	Chg.

Dow Jones Bond Averages				
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues

NYSE Diary				
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues

Odd-Lot Trading in N.Y.				
Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15
Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15
Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15
Dec. 11	Dec. 12	Dec. 13	Dec. 14	Dec. 15

Dow Jones Averages				
Open	High	Low	Last	Chg.
Open	High	Low	Last	Chg.
Open	High	Low	Last	Chg.
Open	High	Low	Last	Chg.
Open	High	Low	Last	Chg.

Standard & Poor's Index				
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues

NASDAQ Diary				
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues
Advanced	Declined	Unchanged	Not Traded	New Issues

AMEX Stock Index				
High	Low	Close	Chg.	
High	Low	Close	Chg.	
High	Low	Close	Chg.	
High	Low	Close	Chg.	
High	Low	Close	Chg.	

Tables include the nationwide prices up to the closing on Wall Street and do not reflect late trades elsewhere.

## Dow Soars 65 in Active Trading

**NEW YORK** — Prices on the New York Stock Exchange posted their best gain Monday in more than six weeks as enthusiastic investors shrugged off the weakening dollar and set their sights on a year-end rally.

The Dow Jones industrial average, which rose 100.30 points last week, jumped 65.82 on Monday to close at 1,932.86. It was the blue-chip index's best gain since Oct. 29, when it added 91.51 points.

Advances led declines by nearly a 3-1 ratio. Volume was 187.7 million shares, up from 151.6 million Friday.

The New York Stock Exchange index rose 3.43 to 135.26, with the price of an average share gaining 78 cents.

The market started strongly, gaining almost 17 points in the first half hour, and gathered momentum all day.

Truist Laumer of Josephthal & Co. said the advance was partly, but not entirely, attributable to computer-driven program trading.

"It's a combination of some speculation, some bargain-hunting, some futures-related activity and some activity related to institutions that need to put cash to work" before the end of the year, she said.

Analysts said the market appeared to want to move higher regardless of the dollar's continued decline against other currencies.

Market sentiment appeared to be affected by a strengthening conviction that prices are headed for a year-end rally, traders said.

"This market wants to go higher for the rest of the year," said Eric Rudner, manager of

block trading with Mabon, Nugent & Co. He added that the weakened dollar eventually could sap the momentum, but that many traders were taking a wait-and-see attitude toward the currency's problems.

Larry Wachtel, a market analyst with Prudential-Bache Securities Inc., said the advance Friday "set up the psychological framework to withstand the weaker dollar this morning."

He added that disarray evident among OPEC oil ministers meeting in Vienna, which sent oil prices plummeting Monday on world markets, also provided some support for stock prices.

"Basically this is a market that's shown surprising resilience in the past week in the face of some bad shocks — especially the trade figure and the dollar," said Michael Metz of Oppenheimer & Co., referring to the record monthly U.S. trade deficit of \$17.6 billion reported Thursday. "It's almost as though it's looking for an excuse to go higher."

Schlumberger was the most active NYSE-listed issue, closing unchanged at 29. Southern New England Telecom followed, up 1 to 46, with Texaco next, adding 3/4 to 35 3/4. Its shareholders and creditors discussed a proposal for a \$3 billion settlement of the oil giant's \$10.3 billion dispute with Pennzoil. Pennzoil fell 4 1/4 to 74 1/4.

International Paper jumped 3 1/4 to 45 1/4 after it said it will boost container board prices. Other paper issues followed, Stone Container adding 3 1/4 to 35 1/4, Great Northern Nekeosa rising 2 1/4 to 44 1/4 and Scott Paper up 4 to 68 1/4.

AT&T added 1 to 28 1/4. IBM gained 5 to 115 1/4.

12 Month High Low Stock Div. Yld. PE				
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE

12 Month High Low Stock Div. Yld. PE				
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE

12 Month High Low Stock Div. Yld. PE				
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE

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12 Month High Low Stock Div. Yld. PE				
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE
High	Low	Stock	Div.	Yld. PE

12 Month High Low Stock Div. Yld. PE				
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BUSINESS ROUNDUP

INTERNATIONAL HERALD TRIBUNE, TUESDAY, DECEMBER 15, 1987

# Steel Loss Depresses Thyssen Profit

DUSSELDORF — Thyssen AG, the West German industrial group, reported Monday that world group net profit fell 18 percent to 302 million Deutsche marks (\$185.1 million) in the year ended Sept. 30, from 370.1 million DM a year earlier.

It said that world group revenue on sales to entities outside the group fell 17 percent to 26.6 billion DM from 32 billion, mainly because of currency fluctuations.

Revenue from steel operations fell 16 percent, to 8.9 billion DM from 10.5 billion.

Thyssen said it planned to pay a dividend of 3 DM, unchanged from the previous year, despite anticipated heavy losses from steel.

Thyssen said a year ago that it expected its steel subsidiary, Thyssen Stahl AG, to post a loss for 1986-87 after a group net profit of 126 million DM in 1985-86.

Thyssen said Monday that Thyssen Stahl's results had deteriorated

sharply, but gave no figures. Thyssen Stahl is expected to issue its results later this week.

Lower steel prices caused steel revenue to drop, Thyssen said, and profit in some areas of the steel sector were not enough to cancel out losses from sheet iron and rod, wire and section steel.

Thyssen's three other main activities — specialty steel, trading and services, and engineering and processing — reported higher profits for the year despite lower revenue, Thyssen said. It provided no details.

Thyssen said its management board was confident about the coming business year despite global economic problems. The company is still aiming to concentrate on promising areas such as services and manufacturing, it said.

Thyssen's fixed-asset investment stood at 1.2 billion DM, down from 1.5 billion DM a year earlier.

Thyssen said its work force had shrunk in the past year in line with cutbacks in the steel industry, standing at 121,533 on Sept. 30, down from 127,683 a year earlier.

In November, Thyssen announced plans to cooperate on production with two other West German steelmakers, Fried. Krupp GmbH and Mannesmann AG, to cut costs in the face of what they called unfair foreign competition.

Officials said all three would shed staff in the operation.

## Nissan Expands U.K. Plant

LONDON — Nissan Motor Co. is investing a further £216 million (\$395 million) in its car plant in northeast Britain, Nissan's chairman, Takashi Ishihara, said Monday.

He said Nissan's investment would enable its British subsidiary, Nissan Motor Manufacturing (U.K.) Ltd., to make Micra, a small new model, at a rate of 100,000 a year beginning in 1992. Nissan's Bluebird cars are already in production at the plant.

Mr. Ishihara said the new investment would bring the total invested at the plant to more than £600 million, the largest single direct Japanese investment in Europe. The company expects to hire a further 1,000 workers, raising the total at the plant to 3,500, he said.

About 60 percent of the Micras and 40 percent of the Bluebirds will be exported. This year the plant will produce 30,000 Bluebirds, with 50,000 planned for 1988. By 1992-93, overall production should be running at 200,000 to 300,000 cars, Mr. Ishihara said.

The British government has offered financial assistance of up to £25 million, he said. He asserted that the project would provide a significant contribution to Britain's trade balance.

Nissan is still discussing the Micra's specifications. "Obviously we want this new car to be as European as possible," Mr. Ishihara said.

## Continental AG, Japan Firms To Form Joint Tire Venture

By Ferdinand Protzman

FRANKFURT — Continental AG, the West German tire manufacturer, said Monday it had signed a letter of intent to establish a joint venture with Toyo Tire & Rubber Co. and Yokohama Rubber Co. to produce tires in Japan and the United States.

Industry analysts said that the move fit in with Hannover-based Continental's plans to consolidate its competitive position after an aggressive expansion into overseas markets.

The three companies, along with General Tire Inc. of Detroit, will form a new company in the United States to produce tires for trucks and buses.

General Tire, which Continental acquired in July for \$650 million from GenCorp, Inc. of the United States, will hold the majority stake, a Continental spokesman said. The Japanese companies will have minority stakes. No financial details were released.

General Tire will produce passenger car tires for the two Japanese companies, while they will manufacture passenger car tires in Japan for General Tire and Continental.

The arrangement is aimed at improving Continental's access to the Japanese market and allowing the

Japanese companies to increase sales to the U.S. auto industry.

Final details should be completed by May 1988, said Dieter von Herz, a Continental spokesman.

Toyo has been producing 250,000 to 300,000 tires annually in Japan for Continental since 1981 under a licensing agreement. Mr. von Herz said, Toyo has a similar arrangement with General Tire under a 1983 agreement.

Continental, which changed its name from Continental Gummi-Werke AG in July, had group sales of 3.5 billion Deutsche marks (\$2.14 billion) in the first nine months of 1987, up 1 percent from a year earlier.

## BP Says Kuwait Raised Its Holding to 13.07%

LONDON — Kuwait has raised its stake in British Petroleum Co. to 13.07 percent from 11.52 percent, BP said Monday.

The Kuwait Investment Office began buying BP shares last month after an issue of new BP stock and the sale of a government stake flopped because of the market collapse.

## Management Group Lowers Buyout Offer for GAF Corp.

WAYNE, New Jersey — GAF Corp. said Monday that a management group led by its chairman, Samuel J. Heyman, had lowered its buyout offer since the stock market collapse.

The chemical and building manufacturing company said that under the new proposal, each GAF share would be exchanged for \$40 in cash and \$8.50 in securities.

In its original bid Sept. 8, the Heyman group had offered \$64 in cash and \$2.50 in securities.

But after the Oct. 19 stock market crash, the group said it was reviewing the bid in light of market

conditions and the rise in interest rates, which would make financing more expensive.

The original bid had valued the company at \$2.23 billion. Wall Street arbitrageurs said the revised proposal was difficult to value because the debt portion of the offer had not been fully disclosed.

GAF's stock, which was trading at more than \$60 a share before the market collapse in October, closed Monday at \$44.25, down 75 cents.

The shares had traded as low as \$35 after the market collapse, and GAF said on Oct. 21 it would buy back up to 21 percent of its common shares.

## JAL Sets Share Price at 13,400 Yen

TOKYO — The government's 34.5 percent holding in Japan Air Lines Co. will be sold at 13,400 yen (\$105) a share, brokers underwriting the issue said Monday.

That price, about 3.5 percent below JAL's closing level Monday of 13,900 yen on the Tokyo Stock Exchange, could bring in as much as 640 billion yen.

Half the 48.1 million shares will be sold to the public Tuesday through Thursday. The other half is

already placed with financial institutions and companies affiliated with JAL.

Underwriting brokers said that institutions would ensure the success of the offering. But they said that individuals were likely to avoid it because of the recent decline in JAL's stock price.

Toshihide Sakamoto, vice president of equity trading at Salomon Brothers in Tokyo, said that institutions were not so concerned about short-term fluctuations.

## CANADA: Citing Threat to Jobs, Patriot Publisher Fights U.S. Trade Pact

(Continued from first finance page)

Canada at 16, fleeing pogroms in the Ukraine.

After high school, Mr. Hurlig worked as a truck driver, then switched to a job as a clerk in a family-owned fur store. In 1955, at 24, he quit the job, borrowed \$3,500 from his father and indulged his love of reading by opening Edmonton's first independent bookstore.

His book business grew with the oil boom sweeping Alberta and expanded within a decade to three stores. Along the way, Mr. Hurlig took advantage of the books to complete his education.

In 1965, browsing through the political section, he came across "Lament for a Nation," by a Canadian academic, George Grant. The book reignited a sense of nationalism among many Canadians of the postwar generation. It argued that Canada, for want of strong national direction, was becoming an outpost of the American empire.

Later, as Mr. Hurlig traveled — first across Canada, then to Europe and beyond — what he saw confirmed the thesis of the Grant book: that Canada would have to be more assertive, particularly

against the United States, if it wanted to preserve its nationhood.

The belief that Canada's future was in the hands of U.S. ownership of Canadian businesses. The figures are in dispute. Recent government statistics say that Americans owned 27 percent of the equity in nonfinancial Canadian businesses in 1960 and 23 percent in 1983. Mr. Hurlig's coalition against free trade says that 36 percent of those businesses were American-owned by the end of the 1960s, compared with 43 percent now.

"The more I learned, the more I realized, first, how lucky we Canadians were to live here, and second, how badly we were screwing up in the way we were running the country," Mr. Hurlig said in an interview before his parliamentary appearance. "And that's when I became interested in politics, not just reading about it but actually doing something to help preserve the Canada I love."

In 1972, Mr. Hurlig sold the bookstore and founded Hurlig Publishers, the first major English-language publishing house in Canada outside Toronto. It focused on Canadian books. Its volumes dealing with Alberta's natural history,

with Canada's role in World War I and with Canadian painting, among others, were best-sellers.

But the venture that secured the company's future was the publication in 1983 of a three-volume Canadian Encyclopedia, the first such reference work devoted to Canadian subjects. Hurlig Publishers invested more than \$8 million in the project, an unheard-of figure for a Canadian publisher. Mr. Hurlig risked everything he owned.

The risk paid off: With total sales of 155,000 sets, the encyclopedia became Canada's greatest publishing success and made Mr. Hurlig a multimillionaire. The government honored him with the Order of Canada, the country's highest civilian honor.

Such success established him as a national figure, with an influence that few private citizens in Canada attain. Much of that influence has gone into a new nationalist organization, the Council of Canadians, founded in 1985.

With 7,000 members and an annual budget of \$230,000, the council has played a major role in organizing opposition to the trade pact. Mr. Hurlig is its honorary chairman.

As some of the country's top economists have discovered, this self-educated man can be a formidable opponent.

The publisher made an impressive display of his homework before the parliamentary committee, where he presented a paper crammed with statistics, many of them the product of fresh research.

A few days earlier, the panel had been dismayed when government witnesses admitted that Mr. Mulroney's forecast of 350,000 new jobs from free trade had not been based on scientific research. It was an opening tailor-made for Mr. Hurlig, who used government statistics to back his argument.

"In the period 1978-1984, Canadian-controlled companies, for every billion dollars (\$766 million) in profits, created 3,765 new jobs," the Hurlig paper stated. "During the same period, for every billion dollars in profits, U.S.-controlled companies created 17 jobs."

The flurry of statistics has confused ordinary Canadians. Almost 50 percent of those questioned in a recent survey were unable to decide whether the trade pact would be good for Canada.

## INDOSUEZ-MULTIBONDS

Fonds Commun de Placement Luxembourgais

39, allée Scheffler, Luxembourg.

Distribution des revenus de l'exercice, clôture le 30 septembre 1985.

(coupon numéro 10)

La politique d'investissement menée au cours de la période du 1<sup>er</sup> octobre 1985 au 30 septembre 1987 permet la distribution de U.S. \$7.904 chacune des parts "A" existant au 1<sup>er</sup> décembre 1987, date à laquelle le coupon numéro 10 sera mis en paiement aux guichets des agents chargés du service financier cités dans le prospectus d'émission.

Les parts "B" ne donnent pas droit au dividende. Les porteurs de parts "A" auront la faculté, jusqu'au 31 janvier 1988, d'utiliser le produit du coupon précité à la souscription de nouvelles parts, sans devoir acquitter les frais d'émission prévus dans le règlement respectif du fonds. Dans ce cas, le rattachement se fera sur base de la valeur d'inventaire de la part valable le jour de l'opération. Ces conditions seront également valables pour le montant en espèces qui sera versé en complément du produit de l'encaissement du coupon, pour parvenir à l'unité supérieure le nombre de parts à souscrire.

Banque Dépositaire, Agent Financier à Luxembourg.  
BANQUE INDOSUEZ LUXEMBOURG  
39, allée Scheffler, Luxembourg.

## INTERMARKET FUND I

société anonyme  
2, boulevard Royal  
Luxembourg  
R.C. Luxembourg B 9632

Notice hereby given that a general meeting of shareholders would be held at the registered office of the company on December 31st, 1987 at 10.00 a.m. with the following agenda:

- to hear the report of the board of directors and of the auditors;
- to approve the accounts of the corporation as at 31st March 1987;
- to discharge the members of the board of directors and the auditors in office with respect of their duties up to 31st March 1987;
- to elect or reelect directors and auditors of the company;
- to decide upon the appropriation of the corporate results.

Shareholders are advised that no quorum is required for this general meeting of shareholders and that resolutions will be passed by a simple majority of the shares present or represented.

Shareholders are advised that the reports and accounts as well as proxy forms are available upon request at the offices of Banque Indosuez à Luxembourg, 2, boulevard Royal, Luxembourg and Banque Ambs et Internationale d'Investissement, 12, Place Vendôme, 75001 Paris.

# ADD SOMETHING SOLID TO YOUR PORTFOLIO. INVEST IN THE NEW GOLD BRITANNIA.

As long as man can remember, gold has been the standard of wealth.

It has been the best insurance against inflation and times of trouble.

More secure than empires, certainly more secure than paper.

And now there is a new, simple way to buy it.

The new Britannia coin contains one ounce (31.1035 grams) of pure gold.

It is guaranteed by the British Royal Mint, the oldest mint in the world.

It is available from all banks and brokers.

And there are three other coins, which contain half an ounce (15.55 grams), a quarter of an ounce (7.78 grams), and one tenth of an ounce (3.11 grams) of gold.

Their price, of course, is determined by the current price of gold.

Which, in the long term, has always risen.

The new Britannia from The Royal Mint.

THE ROYAL MINT



Phs. van Ommeren NV

has merged with



NV Handel- en Industrie-Maatschappij 'Ceteco'

the combination will continue its activities under the name of

Van Ommeren Ceteco NV

The undersigned assisted in the negotiations and acted as financial advisor to Phs. van Ommeren NV in this transaction.

Amsterdam-Rotterdam Bank N.V.



NV Handel- en Industrie-Maatschappij 'Ceteco'

has merged with



Phs. van Ommeren NV

The undersigned assisted in the negotiations and acted as financial advisor to N.V. Handel- en Industrie-Maatschappij 'CETECO' in this transaction.

Algemene Bank Nederland N.V.















SPORTS

# Seahawks Tighten Race in AFC West

By Michael Wilton

SEATTLE — Even though only two weeks remain before the National Football League playoffs, it wouldn't make sense for any of its teams to establish itself as the American Football Conference title favorite. It wouldn't make sense, in this season of little reason, for Denver to come into the Kingdom and put erratic, frantic Seattle out of its misery.

As if the AFC wasn't confused enough already, the Seahawks added to the mess Sunday night, turning

39; Elway responded two plays later with a TD pass to Rick Massie. But the Seahawks didn't mope, as they had been prone to do in recent games. A 24-yard pass from Krieg to Steve Largent got them across midfield, and Denver's pre-occupation with Warner and Largent hurt the Broncos on the next play. Warner took a handoff and handed to Largent (on an end-around), who handed back to Krieg—who threw 40 yards to Butler for an easy flea-flicker touchdown and a 21-14 lead with 5:50 left in the third quarter.

Elsewhere:

Chiefs 16, Raiders 10: In Kansas City, Missouri, Bill Kenney threw a 67-yard TD pass to Carlos Carson and Nick Lowery kicked three field goals to pace the Chiefs.

Bo Jackson's first football game in Kansas City drew 63,834, the Chiefs' biggest December crowd since 1973. Running back Jackson, also an outfielder with the Kansas City Royals, suffered an ankle injury and was held to one yard on three carries. "We were getting pretty tired of all the talk about Bo this and Bo that," said defensive end Mike Bell. "You bet we were. We figured the only way to shut down the hype was to shut him down."

Steelers 20, Chargers 16: In San Diego, Pittsburgh overcame a 9-0 first-quarter deficit with a strong defense and rushing touchdowns by quarterback Mark Malone and Frank Pollard. The Chargers, in their fourth straight loss, committed five turnovers and Vince Abbott missed all three field-goal tries.

Cardinals 27, Giants 24: In St. Louis, Vito Siliakos scored on a 76-yard punt return and set up a second TD with a 48-yard kickoff return to help the 6-7 Cardinals remain in wild-card contention.

Lions 20, Buccaneers 10: In Tampa, Florida, linebacker Jimmy Williams set up 10 points with a 48-yard interception return and a deflected punt to help Detroit hand Tampa Bay its sixth straight loss.

Rams 33, Falcons 10: In Anaheim, California, league rushing leader Charles White carried 29 times for 159 yards and two touchdowns to power Los Angeles to its fifth straight victory.



Kansas City's defense, led by linebacker Aaron Pearson, denied Marcus Allen on this first-period goal-line plunge. The Chiefs held Los Angeles to 88 yards rushing; the Raiders had been averaging 162 yards a game on the ground.

# Woman Jockey Blazes Trail to Winner's Circle

New York Times Service

NEW YORK — Imagine someone 24 years old who is 4 feet 10 inches (1.47 meters) tall and weighs 100 pounds (45.4 kilograms). Normal social indignities being what they are, such a person would probably have endured a joke or two and been asked for an I.D. card several dozen times too many.

Add to that the occupational hazard of riding thousand-pound thoroughbred racehorses for a living, and this same person might have interesting things to say about the follies of appearance.

Finally, say this person is a woman — the most successful female ever in a sport that is still largely a male bastion — and you have Julie Krone, the current leader among all jockeys at this fall's Meadowlands meeting.

Last summer, Krone was the leading rider at Monmouth Park. During the past weekend she won the two feature races at Aqueduct — the Gallant Fox and Graveland Handicaps — and the Winter Quarters Handicap at the Meadowlands. When she rides full time in New York beginning in January, it will be the biggest step up in a career that began seven years ago.

To any jockey, to any lover of the sport, this matter of appearance has little to do with semantics and everything to do with performance. How you are regarded in the paddock by owners and trainers determines what mounts you are likely to be given. The fact that Krone is a woman has compounded the fundamentally difficult task of getting the horses she needs to ride her way to the top. That she is already well on her way — Krone has more than 1,000 career victories and earnings more than \$4 million — perhaps says more about her than about any current trends in racing.

Trainers talk about Krone's exceptional ability to keep her pose on a moving horse. Hard-bitten about the task of driving a horse through the stretch, Krone talks about how beautiful it is "in the middle of all that speed and power to have this picture that I do from where I sit, of just hands and a horse's mane."

Krone's athletic ability is already something of a legend.

"She is an extremely talented, gutsy and aggressive rider," said Steve Klesaris, the trainer. Klesaris heads the Meadowlands di-

vision of horses trained by his brother Robert, who has stables at several tracks and who was the leading trainer at the Meadowlands in 1985 and 1986 and at Monmouth in 1987. The Klesaris are among a handful of trainers and owners who now regularly steer their horses to Krone because she can do the job.

Krone's aggressiveness is a mix of both savvy and determination. She talks about the importance of being "suave" in a race and also about what's required to drive a horse between others when no openings seem to exist. "You watch the hand a stick is being used with," she said recently. "If a jock is shipping with his left hand and then switches to his right, you can anticipate that his horse will then move slightly left, and it's there you take your risk — drive to the slight opening you know will be coming on the right side."

But love of horses gives her a power beyond muscle and drive. In the words of Klesaris, Krone "has a great hands-to-horse ability. There is a chemistry there."

Krone talks to horses — and dreams about them. In many respects, riding is being a good passenger, taking what the horse gives you rather than forcing on him something he will resist. "If you go 10 paces and the horse starts to get nervous, you don't try to hold him then — you give him away," she said.

Her dream? "Well," she said with a laugh. "I had one recently where I was hearing a horse in the stretch, it was cold and it was in the rain. And the horse talked to me. 'Are you nuts?' he said to me. The dream was about how tolerant horses really are."

During a career in which she has moved progressively up from smaller tracks, Krone has endured the dangers of a dangerous trade. She broke her back in a fall in 1980, and, most recently, tore knee cartilage when a horse bucked in the starting gate and twisted her foot in a stirrup. The significance for her is only that these things happen. In spite of a history of slight — and occasional fights — over her sex, she has always been a jockey first and last.

As the Meadowlands meet winds down, she is in a neck-and-neck race with Chris Antley for top jockey honors. Antley, who used the New Jersey circuit as a springboard to New York, knows how difficult it will be for Krone when she tries to make the same jump.

"It will be like going from high school to college," Antley said. "All the top riders are there and everyone has their customers. It will be a matter of personality. She's always had the talent, but the single most important thing about her is that she does have the personality."

In racing's world of appearances, that doesn't always add up to an Eclipse Award, but it's almost as important.



Julie Krone  
"... Just hands and a horse's mane."

# A Seemingly Charmed Industry Takes Market Plunge in Stride

By Robert McG. Thomas Jr.

New York Times Service

NEW YORK — Two months after the stock market crash wiped out half a trillion dollars of the nation's wealth, those who work in the multimillion-dollar sports industry are in broad agreement that the immediate impact on athletes and athletics was limited, that the short-range fallout has been negligible and that even in the face of a possible recession the long-term outlook remains bright.

The market news on Oct. 19 produced moans in National Football League locker rooms as players were returning to work after a costly three-week strike. But interviews with dozens of players, agents, financial advisers and others indicate that comparatively few high-paid athletes or wealthy sports executives had significant stock holdings, that many of those who did had gotten out of the market before then and that most of those who remained had plenty in reserve to cushion their losses.

"It certainly didn't put any hole in our vault," said Jim Hasty, the vice president and general manager of the Indianapolis Colts. He helped his father, Robert, the club's owner, celebrate their good fortune two weeks after the crash by signing Eric Dickerson, the running back they had obtained from the Los Angeles Rams, to a series of four one-year contracts worth \$4.5 million.

Dickerson, recalling that he had made \$20,000 in the stock market "a while back," was also celebrating. "I didn't have anything in the market," he said.

Some players actually made a profit. According to Mike Weisberg, a Chicago-based investment adviser, his client Jim McMahon, the Chicago Bear quarterback, made a \$30,000 profit on Black Monday when low-cost put options he had bought to hedge his \$300,000 portfolio soared in value as the market plummeted. Another hedging device, stop-loss orders, had triggered sales of much of McMahon's holdings at prices well above the market's collapse. Craig James, the New England Patriot running back, said he, too, cleaned up on the crash, earning a six-figure profit covering short sales he had made just a few weeks before.

There were, to be sure, some losses. Leon Hess, the New York Jet owner who is also chairman of Amerasia Hess and owns almost nine million of its shares, took a \$65 million loss when the oil company's stock dropped by \$7.50 a share, a quarter of its previous value.

One area where many athletes were affected was in their pension funds. The NFL players' fund, for example, lost about \$40 million of its \$240 million value in the crash. The decline will not affect player pensions, however, because the fund had been overfunded by that amount. But the owners point out that they had offered to give the \$40 million surplus to the players as part of a proposed contract settlement the players had spurned.

The major league baseball players' pension fund lost more than \$50 million, according to union officials, who said that if the fund remained at the Black Monday level next spring, when benefits are set for the following 12 months, payments to retired players, which now range from \$1,587 to \$2,094 a month, would be cut by a maximum of \$168 a month.

Despite such potential cuts for those already retired, money managers generally dismissed the impact of such losses on active players, noting that pension funds represented long-term investments that would have years to recover and that there were no immediate implications on players' spending power.

Money managers point out that many of those who lost money in the crash were no worse off than they had been a year or so ago. For example, Hess's holdings declined by a total of \$175 million from their high in July, but were worth about \$200 million at recent price levels, about \$30 million above their 1986 low.

Sports industry executives also downplay the effects of any economic downturn that may follow the crash.

"Boom or bust, people go fishing," said Les Isgur, a games and leisure-time industry analyst for PaineWebber, who schooled a widely held belief that the sports business is virtually recession-proof.

He and others recall the 1930s, for example, as a time when Americans flocked to movies and sports events as solace from the ravages of the Great Depression.

The view is not strictly supported by the record. Several fragile NFL franchises collapsed during the 1930s, for example, and attendance at major league baseball games declined from an average of 5.2 million a year in the decade through 1929 to 3.1 million in the 1930s.

Even so, the drop in attendance represented a decline of only 12.7 percent at a time when many businesses were suffering far greater losses, lending credence to the view that sports is, indeed, a charmed industry.

It is seen as even more charmed now that sports has evolved into one of the nation's largest and fastest-growing industries. A recent study concluded that sports accounted for \$47 billion of the gross national product in 1986, making it the nation's 25th largest industry. The finding actually understates

the industry's economic importance since, by regularly riveting the attention of millions of easy-spenders men in the coveted 18-49 age group, sports has become an indispensable marketing engine for other businesses.

Even in a recession, industry executives say, sports will thrive. "Nobody is folding their tents," said Gerald Dominus, a CBS vice president, who suggested that companies that trimmed their advertising budgets in a recession would lose market shares they would be hard pressed to recover later.

His comments were echoed by corporate executives who underwrite televised sports. Phil Guarascio, for example, who is in charge of worldwide advertising for General Motors, which spends a third of its network advertising budget on sports programming, said he expected no cutback as a result of the crash.

Guarascio also agreed with Henry Brehm, who supervises about 60 sponsored tennis and other tournaments for ProServ, that companies would not cancel event sponsorships in a recession. Sponsorship arrangements, they said, represent long-range marketing strategies taking years to build up associations between a product and a given event and are not abandoned lightly.

There have, to be sure, been reports of some adverse effects attributable to the crash, including a few cancellations of ski weekends in Utah, a softening of the market for yachts in Newport, Rhode Island, and a cutback in the number of big sports bets in Nevada.

But Isgur, the PaineWebber analyst, dismisses such spending cutbacks as limited to "BMW types," who for all their conspicuous consumption constitute a tiny minority of the consuming public.

With the possible exception of major gifts for stadium construction and the like, college fund-raisers say they expect no cutbacks in contributions to collegiate athletic programs. According to George A. Brakley 3d, the president of the fund-raising consultant firm Brakley, John Pryce Jones, economic conditions have no effect on gifts by boosters.

"The only thing that counts," he said, "is how well the football team does."

# Numbers, Haircuts, Etc.: Fads Still All the Rage

By David Falkner

New York Times Service

NEW YORK — Several years ago, Michael Jordan, the high-flying forward of the Chicago Bulls, decided that he needed more room in the seat of his pants. For the sake of comfort, not style, he had two inches added to the rise in his basketball shorts and four inches added to their length. Whether he intended to or not, he started a trend, one of several — in fashions, hair styles and uniform numbers — that are sweeping the world of basketball.

Fads in sports are usually tied to the need to emulate successful figures of the moment, but they are also rooted in the need for self-expression, flamboyance and individualism.

"There is no doubt that people copy superstars," said Mike Merkel, product manager of Sandnik-MacGregor, the Wisconsin sporting-goods firm that manufactures uniforms for the National Basketball Association and many colleges and high schools.

Jordan's baggy shorts are an example. Though they have been on the market only a short time, they make up two percent of total sales — "a significant figure," Merkel said, "because many col-

leges and nearly all high schools, limited by budget constraints, can only order by standard sizes."

A better way to measure star appeal, Merkel said, is to look at uniform numbers.

"We sell approximately 50,000 numbered basketball jerseys a year," he said. "Of that number, 50 percent are divided among just

athletes is one called the Mushroom. As with Bosworth's Mohawk, the skull is shaved to above the ears, and a round or square deck of hair is left on top.

Pasquale Gallo of Astor Place Hair Design Salon in Greenwich Village says he invented the style. "The Mushroom is definitely a personal statement," he said. "It

More recently, Robert Parish, the lacrosse Boston Celtic center, has been wearing 00. Three other NBA players — Kevin Duckworth of Portland, Benoit Benjamin of the Los Angeles Clippers and Johnny Moore of New Jersey — wear 00, a fourth who did, Tony Campbell, was cut earlier this season by Detroit.

According to Merkel, "at least 100 players out there in four-year colleges are wearing it, too, and probably a lot more in junior colleges and high schools."

Jeffrey Leonard, the first San Francisco outfielder, is the first major league baseball player to wear 00. John Davidson, a former New York Ranger goalie, wore it for a while.

Moore, a point guard, acknowledged copying Parish. "I kind of got the number from him — he could play the game," Moore said. "He might not talk much, but when you see those double zeros coming at you, watch out. He does exactly what he's supposed to do on the court."

Parish said years ago that he started wearing 00 in high school, "because we didn't have enough numbered shirts to go around, so my shirt was called double zero. I liked it, so I kept it."

Fads in sports are usually tied to the need to emulate successful figures, but they are also rooted in the need for self-expression, flamboyance and individualism.

four numbers: 23 (Michael Jordan's number), 33 (Larry Bird's), 32 (Magic Johnson's) and 21 (Dominique Wilkins's). The really magic number is definitely Jordan's — 30 percent of all sales are for his number alone.

Not all current trends, however, are so directly attributable to hero worship. When Jim McMahon, the Chicago Bear quarterback, and Brian Bosworth, the rookie Seattle Seahawks linebacker, adopted spiky hair styles, they were following, not setting, a trend.

A haircut now popular among

# SPORTS BRIEFS

## Flamengo Wins Brazilian Soccer Title

RIO DE JANEIRO (AP) — Flamengo won its fourth Brazilian soccer title here Sunday, beating Internacional of Porto Alegre, 1-0, amid torrential rain and before a crowd of 90,000.

The only goal came in the 18th minute, when Andrade rushed into the goal area and made a perfect side pass to Bebeto, who slid the ball home. The game ended the tournament between the 16 first-division teams. Flamengo and Internacional had drawn, 1-1, in their first match the previous Sunday in Porto Alegre.

## Hussein Takes 3d Honolulu Marathon

HONOLULU (AP) — Undeterred by rain, wind and a strong field, Ibrahim Hussein of Kenya coasted to his third straight victory in the Honolulu Marathon.

Hussein was clocked in 2 hours, 18 minutes, 26 seconds, the first time he has not broken the course record (he ran a 2:12:08 in 1985 and a 2:11:44 in 1986). Gidamis Shahanga of Tanzania, the 1978 Commonwealth Games champion, finished second in 2:19:36. He and Hussein were the only runners to break 2:20.

Carla Beurskens of the Netherlands also became a three-time Honolulu champion, taking the women's division in 2:35:11, failing to lower the women's course record of 2:31:01 that she set in 1986. Beurskens was followed by 1985 Boston Marathon women's winner Lisa Weidenbach in 2:37:43.

## Quotable

• Denver Broncos quarterback John Elway, who played one summer in the New York Yankee organization, on the baseball-football career of Bo Jackson: "I can't imagine making all that money and playing all year and not having time to spend it." (LAT)

# SCOREBOARD

## Football

### NFL Standings

AMERICAN CONFERENCE										EASTERN CONFERENCE										
East										African Division										
Team	W	L	T	Pct.	PF	PA	Diff.	Streak	Playoff Position	Team	W	L	T	Pct.	PF	PA	Diff.	Streak	Playoff Position	
Pittsburgh	10	4	0	.714	254	215	+39	W3	1	Boston	11	8	0	.579	-	-	-	-	-	6B
San Francisco	9	5	0	.643	225	225	0	W1	2	Philadelphia	10	6	0	.619	-	-	-	-	-	11A
Los Angeles	7	6	0	.538	229	290	-61	L1	3	New York	6	12	1	.333	-	-	-	-	-	12
San Diego	6	7	0	.462	233	292	-59	L1	4	Washington	6	12	1	.333	-	-	-	-	-	5B
Denver	6	7	0	.462	230	282	-52	L1	5	New Jersey	2	15	1	.118	-	-	-	-	-	13
Seattle	6	7	0	.462	230	282	-52	L1	6											
Indianapolis	5	8	0	.385	244	295	-51	L1	7	Central Division										
Atlanta	5	8	0	.385	244	295	-51	L1	8	Chicago	13	5	0	.732	-	-	-	-	-	1
Washington	5	8	0	.385	244	295	-51	L1	9	Los Angeles	14	4	0	.769	-	-	-	-	-	2
Philadelphia	5	8	0	.385	244	295	-51	L1	10	Atlanta	10	8	0	.556	-	-	-	-	-	10
Minnesota	5	8	0	.385	244	295	-51	L1	11	Indianapolis	11	8	0	.579	-	-	-	-	-	11A
Green Bay	5	8	0	.385	244	295	-51	L1	12	Albuquerque	11	8	0	.579	-	-	-	-	-	21A
Chicago	5	8	0	.385	244	295	-51	L1	13	Cleveland	7	11	0	.389	-	-	-	-	-	22
St. Louis	5	8	0	.385	244	295	-51	L1	14											
San Francisco	5	8	0	.385	244	295	-51	L1	15	WESTERN DIVISION										
New Orleans	5	8	0	.385	244	295	-51	L1	16	Denver	12	6	0	.667	-	-	-	-	-	1
Atlanta	5	8	0	.385	244	295	-51	L1	17	Houston	11	8	0	.579	-	-	-	-	-	2
Indianapolis	5	8	0	.385	244	295	-51	L1	18	San Antonio	9	9	0	.500	-	-	-	-	-	3
Washington	5	8	0	.385	244	295	-51	L1	19	Utah	10	8	0	.556	-	-	-	-	-	4
Philadelphia	5	8	0	.385	244	295	-51	L1	20	Sacramento	4	15	1	.211	-	-	-	-	-	5
Minnesota	5	8	0	.385	244	295	-51	L1	21											
Green Bay	5	8	0	.385	244	295	-51	L1	22	Pacific Division										
Chicago	5	8	0	.385	244	295	-51	L1	23	Los Angeles	13	6	0	.684	-	-	-	-	-	1
St. Louis	5	8	0	.385	244	295	-51	L1	24	San Francisco	12	7	0	.630	-	-	-	-	-	11A
San Francisco	5	8	0	.385	244	295	-51	L1	25	Seattle	10	9	0	.524	-	-	-	-	-	3
New Orleans	5	8	0	.385	244	295	-51	L1	26	Phoenix	7	10	0	.413	-	-	-	-	-	5
Atlanta	5	8	0	.385	244	295	-51	L1	27	L.A. Clippers	7	10	0	.413	-	-	-	-	-	6
Indianapolis	5	8	0	.385	244	295	-51	L1	28	Golden State	3	15	1	.167	-	-	-	-	-	9
Washington	5	8	0	.385	244	295	-51	L1	29											
Philadelphia	5	8	0	.385	244	295	-51	L1	30	SUNDAY'S RESULTS										
Minnesota	5	8	0	.385	244	295	-51	L1	31	Sacramento	20	24	24	24-26	-	-	-	-	-	10-16
Green Bay	5	8	0	.385	244	295	-51	L1	32	Atlanta	20	24	24	24-26	-	-	-	-	-	11-14
Chicago	5	8	0	.385	244	295	-51	L1	33	With 13 2:15 2-22, Rivers 4:10 1-4 1-4, Williams 4:14 2-24 1-4; 28-5-25, Thornton 2-12 4-15 1-4, Williams 4:10 1-4 1-4, 28-5-25, Thornton 2										



